ENGINEERING NEWS-RECORD

ssembling ponton bridges in a hurry is but one of the courses at the Army's Engineer School.

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*Months of Time and *Tons of Vital Material

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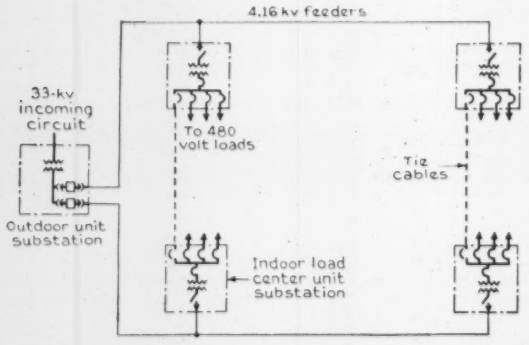
1. Decide on a modern load-center distribution system using load-center unit substations.

2. Make a simple, one-line electrical layout of your proposed plant.

3. Specify standard equipment; standardization means you get better equipment more quickly and at lower cost.

4. Order your electric equipment as soon as possible so that it will be available for immediate installation when construction has progressed far enough.



A typical one-line diagram of a load-center distribution system, with power being distributed at high voltage (2.4 to 13.2 kv) to unit substations located near the centers of electrical load areas—eliminating long, heavy, low-voltage feeders from a distant large substation. Thus, you save tons of copper, and the performance of motors, lamps, etc., is improved because of the reduction in voltage drop.

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General Electric, Schenectady, N. Y.

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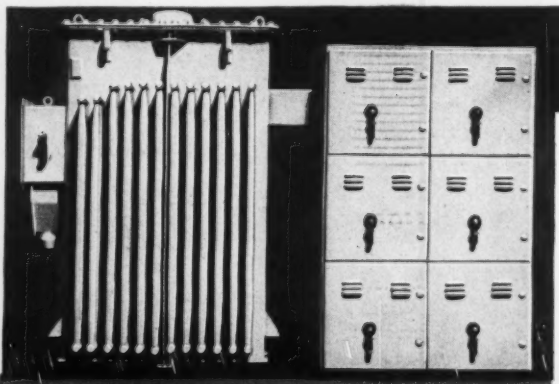

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • DECEMBER 10, 1942 • VOLUME 129 • NUMBER 24

Presidential order ends WPA, records to be closed Feb. 1

Once nation's biggest employer, agency had spent about $14,500,000,000 during its lifetime, employed millions. Construction work was major part of its program.

The federal work relief program, which, in its day, had employed one out of every five American workmen and had spent something like fourteen and a half billion dollars, came to the end of its road last week. The President ordered that the Work Projects Administration wind up its affairs within the next few months.

Feb. 1 has been set as a tentative deadline for the wind-up. Projects that are being done for other federal agencies—airports for CAA, sidewalks and clean-up work at cantonments for the Army, etc.—will, if they are not finished by that date, be turned back to the sponsoring agency. In sixteen states where WPA rolls are already very low, it is expected that all projects can be finished or wound up without loss of work already accomplished by the deadline.

In other states, WPA may remain in partial operation for some months after the end of January. In a few cases, new projects may even be initiated in order to permit an orderly tapering off of the work relief rolls.

Order a formality

The Presidential order ending WPA was hardly more than a formality. The number employed by the agency had fallen from a peak of 3,335,000 three years ago to about 350,000 at the beginning of this month.

Construction once constituted a major part of WPA work.

Of the $14,468,000,000 spent by WPA during its existence, nearly $7,500,000,000 had gone to cover the federal share of the cost of something like $9,750,000,000 worth of construction. In recent months, however, the proportion of construction to the total had been falling. Last July, when 380,000 workers were employed, only 186,000 of them were engaged in construction.

Nearly half of these—about 86,000—were on road work, a type of project that is easy to stop at any time. More difficult to wind up are the building projects on which 29,000 men were engaged last July. Some 21,000 were working on water, sewer, and utility jobs, while 14,000 were doing airport work.

The rest were scattered among such projects as water and soil conservation, privy construction, engineering surveys, construction of recreational facilities.

Always under attack

Throughout its existence, WPA was under severe attack, both from those who opposed the general idea of federal public works and from those who considered the WPA's force-account method of operation inefficient.

But, efficient or inefficient, WPA by

Official U. S. Navy Photo
Released through Press Assn. Inc.

Pearl Harbor, T.H.; Dec. 7, 1941

Enclosed within the concrete walls of a naval drydock at America's great Pacific naval base, the mess of tangled steel and lumber in the foreground were once the destroyers Downes (left) and Cassin.

They were hardly recognizable after Japanese sneak aerial raiders left the harbor a blazing mass of wrecked and damaged warships.

In the background is the 33,100 ton battleship Pennsylvania, flagship of the Pacific Fleet, which, according to official Navy releases, was "relatively undamaged."

sheer dint of size accomplished a tremendous amount of construction.

WPA workers built or improved 644,000 miles of streets and highways. They built 2,563,000 linear feet of bridges and 29,000,000 feet of culverts. They built 5,690 schools, improved 31,000; in all, built 34,000 public buildings and improved 83,000. They built 285 new airports and improved 415. They built 2,669 power, water, sewage and refuse disposal plants, laid 16,000 miles of water line and 24,000 miles of sewers.

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Eight ways to reduce mileage of city trucks

On the eve of nation-wide gasoline rationing, the American Municipal Association issued a special report last week listing eight methods by which municipalities can reduce mileage of city owned and operated trucks and automobiles.

The eight methods, recommended to aid local mileage administrators in their supervision of programs for reducing municipal mileage, are: Strict control of all municipally owned cars in a pool arrangement; detailed studies of the automotive equipment and of possible reductions in its use; rerouting regularly scheduled service trips, use of other than automotive modes of transportation; take some municipally owned cars out of service; less police car cruising; reduction of volume of many services such as garbage collection; and listing of privately owned cars in public service for preferred mileage only where absolutely necessary.

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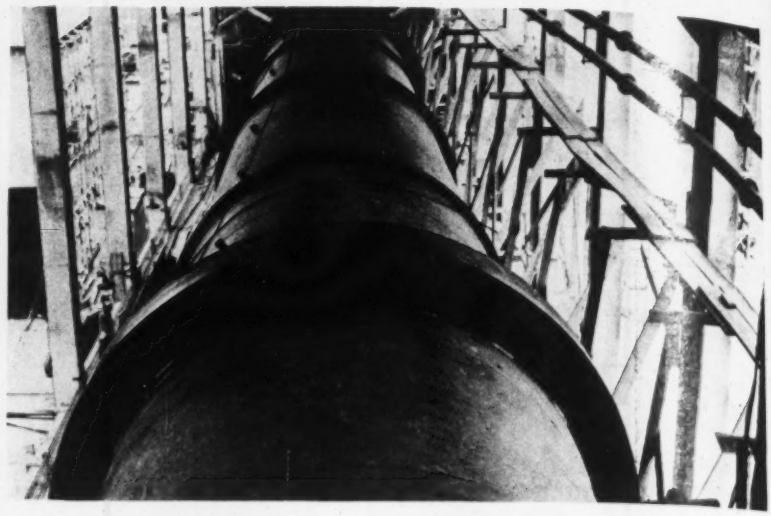
Albert Kahn Dies

America's best known industrial architect and engineer, Albert Kahn, of Detroit, died at his home there on Dec. 1. He was 73 years old.

Since 1939, when his firm received a design commission from the Bureau of Yards and Docks for naval and airbase work on the Pacific Islands, Mr. Kahn's activities have continued at high pressure, and it is probable that this may have hastened his death.

Largely self-taught, he early saw opportunities in industrial building designing, neglected by most architects. His first major factory was in reinforced concrete for the Packard Motor Car Co. early in this century. He continued to serve this company for 39 years, the Ford Company for 34 years and Chrysler for 18 years. He was also the designer of many General Motors factories and of the Fisher office building in Detroit. Lately he had turned out many structures for the aviation industry. One of his most famous commissions was with the Soviet government, for which he built over 500 industrial plants.



Big kiln features cement plant expansion

This kiln, said to be one of the largest of its kind in the United States, is part of a $2,000,000 expansion program under way at the plant of the Marquette Cement Manufacturing Co., Des Moines, Ia.

The kiln is 11.5 ft. in diameter, and 475 ft. long. It is completely lined and insulated, and equipped with three miles of ⅝ in. chain. In addition to the kiln and its cooler, the expansion program includes a raw materials storage building, a raw mill and a boiler plant. (ENR, March 26, 1942, p.474) Arthur H. Neumann and Bros. and the Kucharo Construction Co. are contractors for the work.

Substitutes listed for metal heating ducts

Materials that may be substituted for galvanized and tinned sheet iron in the fabrication of heating ducts are now on the market, but certain precautions should be observed when using them, according to S. H. Ingberg, chief of the fire resistance section, National Bureau of Standards.

Particularly in the case of hot air supply ducts, only materials that are classified as "incombustible" or "fire retardant" are acceptable, and of the latter classification, the material should not be carried within 6 ft. of heating plants if liquid or solid fuels are used. Close to the furnace an "incombustible" duct is necessary. For return ducts this distance need be no greater than 3 ft.

To be 100 percent acceptable to the trade, Mr. Ingberg said, a substitute material should be capable of being worked with the same tools and technique as are used for sheet metal. For this reason, thin, pliable sheets have found favor, although some of the rigid boards may have superior structural strength and durability.

"Cement-asbestos boards have many commendable characteristics, but their fabrication is somewhat complicated, and metal fittings are usually required," Mr. Ingberg's report said. "If metal is not ruled out altogether, pickled iron sheets coated with a high melting point compound of fatty acid pitch containing a high percentage of inert mineral filler, are now available. The coating on these sheets is covered with mica dust that gives them a gray color and a "greasy" feel. The technique of fabrication is the same as for galvanized iron, except that preparation for soldering requires removal of the coating from the areas to be joined."

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System of fire cisterns protects rural villages

A county-wide system of fire cisterns, now under construction in Kenosha County, Wis., is expected to assure fire protection for rural communities, according to the American Municipal Association.

Three cisterns, each having a capacity of 24,000 gallons, have been completed, and 15 more are under construction or planned. The reservoirs, one to a village, are placed in areas where buildings are grouped. With 1,000 to 1,500 feet of hose available, it is believed possible to protect all points of a community by pumping directly from one of these cisterns.

Built of reinforced concrete, the cisterns are completely underground, with only manhole covers visible. Some of them are built close to wells from which they may be replenished, and others utilize run-off water from nearby buildings.

Cost to date, including supply and overflow pipes, has been $3,416 per unit.

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Manpower directive may regularize the drain on construction workers

Selective Service System under control of McNutt's Manpower Commission; employers may have to hire through employment service

Greatest immediate importance to construction and engineering firms of the President's new executive order giving increased authority over manpower to War Manpower Commissioner Paul McNutt lies in the regularization of the Selective Service System which is expected to result.

Abolition of voluntary enlistment in the armed forces in itself will make for more stable employee groups. On the other hand, some employers may find their staffs cut into more deeply because the Navy will now obtain its men through Selective Service. Since the Navy requires a higher percentage of skilled men than the Army, this will result in calls for men of particular skills. Thus, expansion of the Seebees may mean that Selective Service boards will be told to draft a certain number of men with construction experience.

New consistency seen

An effect that may be felt, gradually, is greater consistency in the decisions on occupational deferment by different local draft boards. Theoretically, for instance, construction is recognized as a war-essential industry, but different boards are quite likely to decide differently about the deferment of men doing the same sort of work. This inconsistency has been the basis of most of the criticism directed to date at the Selective Service System, and McNutt intends to do something about it.

One move in this direction is the manning table plan (*ENR*, Nov. 12, p. 667) under which the deferment problems of an employer's entire staff could be worked out in one coordinated program.

Another possibility which has been discussed in WMC is setting up groups of professional personnel men to decide occupational deferment questions instead of the present local draft boards.

Aside from the assignment to McNutt's commission of full control over Selective Service, the most significant feature of the new executive order is a clause permitting McNutt to require that all employers do their hiring through the U. S. Employment Service and to require that any employer, on request, release any of his employees who are more urgently needed somewhere else.

Neither of these procedures is expected to affect construction. McNutt's intention is to use his power selectively, requiring centralized hiring only in critical labor-shortage areas and in critical industries. There are few, if any, severe labor shortages in construction, and the industry is expected actually to be laying off men in the coming year. It is possible that a few construction employers might find themselves asked to lay off certain men to permit them to go back into farm occupations or into shipyard construction.

No legal compulsion

The executive order makes no provision for direct compulsion on the individual worker to take a particular war job. Such compulsion would probably require legislation, and plans for introduction of national service legislation have been deferred at least until next spring and perhaps indefinitely.

Farmers and farm workers for instance, under a recent order, will be drafted into the army—dependents or no—if they leave the farm without permission from their draft boards. Similarly, through the powers he has over employers, McNutt can make it practically impossible for a man to get any job except the one McNutt thinks he ought to have.

Inquiry fails to fix cause of form collapse

A public inquest into the deaths of five workmen killed at Welland, Ontario, recently, when formwork for a reinforced concrete roof at the Atlas Steel Ltd., plant collapsed (*ENR*, Dec. 3, p. 755) while concrete was being placed, last week resulted in an open verdict.

The jury said it was unable to determine the cause of the collapse, but noted that two construction officials had suggested that the struts supporting the formwork had been tampered with. Jurymen recommended that in the future constant watch be kept on all such work in all important construction projects.

• • •

Road bureau liable for failure to take over road

The Supreme Court of Mississippi recently affirmed the finding of a county court that the state highway commission is liable for expenses incurred by a contractor for maintaining a road project after the date the commission was due to have taken over the project.

The case was that of the highway commission versus Martin Wunderlich, in which the commission allegedly had failed to procure right-of-way for a bridge until half the contract time elapsed.

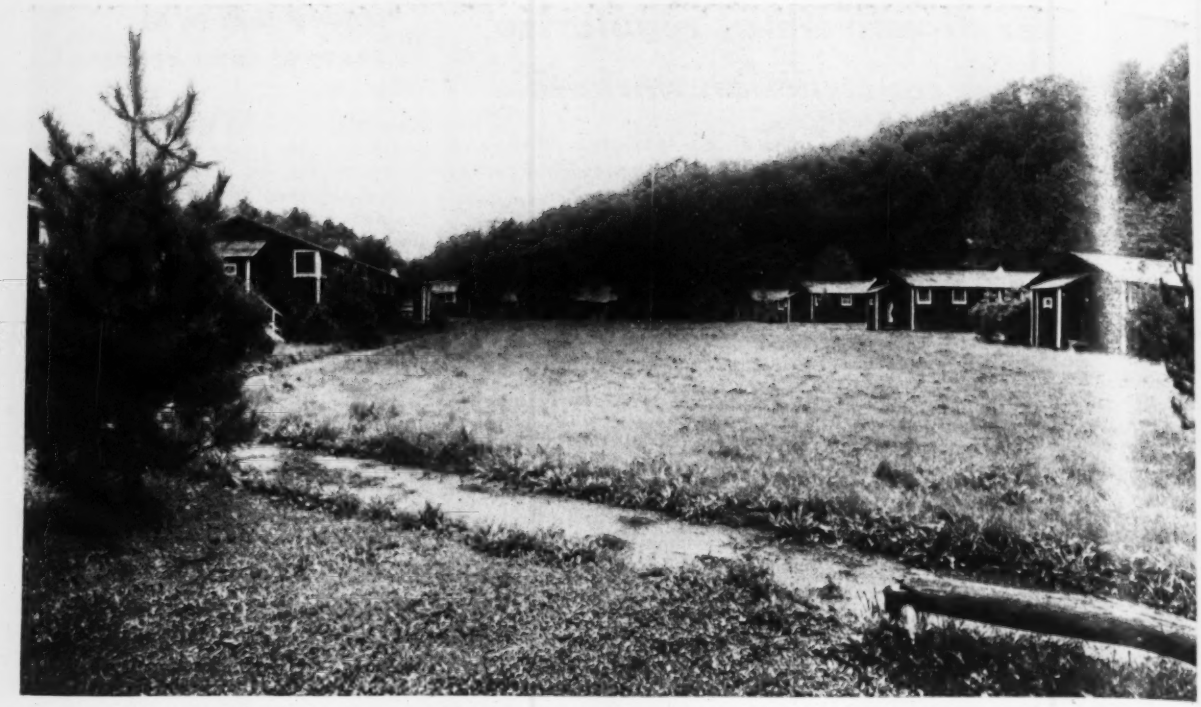
Photo by British Combine

Emergency water tanks guard against air raids

The intensive enemy air raids on London and other British cities during late 1939 and early 1940 taught many defensive lessons—more important among them being the need for an immediate, uninterrupted flow of water to aid firemen in fighting bomb-started blazes.

The British answer to the problem has been installation of static water storage tanks like those shown above, placed wherever bombs or necessary demolition have cleared space for them. In the London area alone, more than 180,000,000 gallons of water are stored in this manner—most of the tanks located where they can be replenished from nearby streams or other sources of supply.

Each of these tanks holds 22,000 gallons, and placing of all the reservoirs in the area entailed laying of about 180 miles of piping.

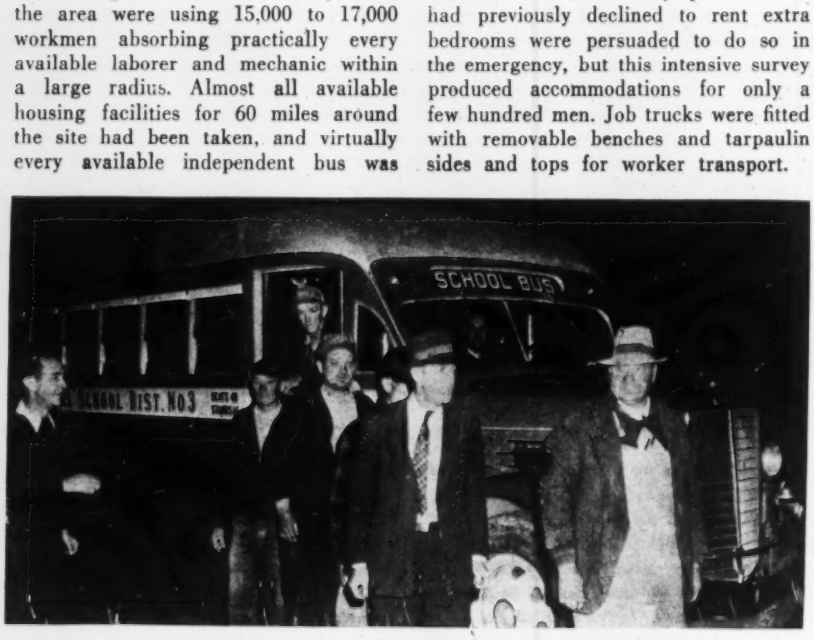


Once the base for operations of a CCC contingent, this camp now serves workers on a war construction project.

CCC Camp Becomes Construction Quarters

A contract for a large number of buildings to be erected quickly in a rural area already drained of manpower and congested with workers on other construction, made it necessary to take unusual action to secure, house, feed and transport workers. Other jobs in the area were using 15,000 to 17,000 workmen absorbing practically every available laborer and mechanic within a large radius. Almost all available housing facilities for 60 miles around the site had been taken, and virtually every available independent bus was contracted to transport men to and from cities and villages as far as 50 miles away.

The contractors for the new work first made a house-to-house canvass of all farm and village homes within 20 miles of the site. Many persons who had previously declined to rent extra bedrooms were persuaded to do so in the emergency, but this intensive survey produced accommodations for only a few hundred men. Job trucks were fitted with removable benches and tarpaulin sides and tops for worker transport.



An odd vehicle for construction workers, but it's transportation.

However, the necessity of finding suitable accommodations for a few hundred picked laborers at a central point, where good accommodations, food and recreational facilities could be provided, became apparent. The contractors again made a comprehensive survey—this time of all buildings capable of sheltering a number of men.

The survey included vacant stores, abandoned factories, warehouses, Grange halls, state park buildings, etc., each of which was listed as to location, size, heating and sanitary facilities. Most promising structures found were three former Civilian Conservation Corps camps 30 to 40 miles from the construction work. These camps had recently been acquired from the CCC by the Corps of Engineers.

Selected as most desirable was a camp with a capacity of 350 to 400 men, six dormitories, a separate shower and washroom, infirmary, mess hall, recreation building and officers' quarters. Here the assistance of the area engineer in charge of the contract was enlisted and effective action started at once. The area engineer formally assumed custody of the camp and made a contract with the general contractors whereby they took over all the camp facilities for the duration of the job without charge.

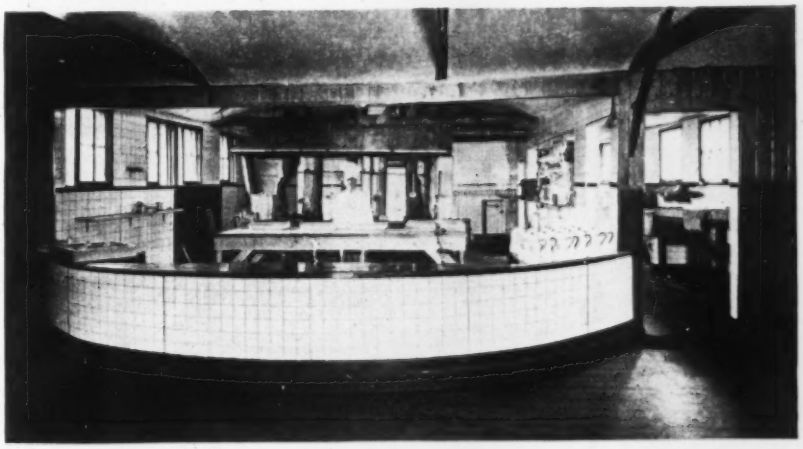
The contractors employed a commer-

Rest and relaxation is as important to war workers as to military men. The camp's canteen continues its function.

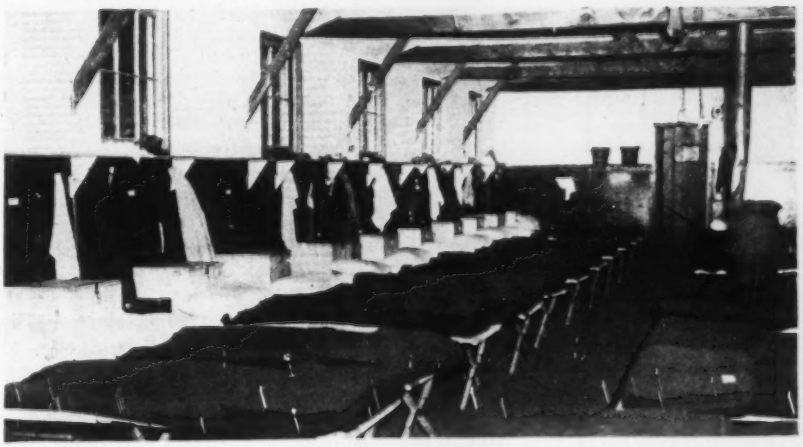
cial commissary organization to run the camp. As the camp is in a relatively isolated spot an employment office was opened at a town on train and bus lines and a nearby store was rented where cots were installed to accommodate men arriving too late to be sent to the camp.

This solved the housing and feeding problem but there remained the matter of transporting workers to the job, 30 miles each way, daily. Practically all available privately owned buses had been contracted for other work. Arrangements were made with two school boards, who regularly operated buses for transportation of pupils in the immediate area, and up to eight large buses were obtained. The buses were made available only as a special contribution to the emergency nature of the work and were provided with drivers, gasoline, insurance, etc. A nominal charge of 25 cents for a one-way trip is made, collected by tickets sold through the commissary and turned over to the contractors to help defray the contract cost of the buses.

The men living in the camp, having proper diet, healthy recreational facilities and sound sleep in the heart of the woods, have proven to be the best laborers employed. The work is in an area where skilled craftsmen from cities had refused to go as the lack of accommodations had become notorious. Being able to guarantee lodging and board has removed the prejudice against the area and enabled the contractors to recruit the men they need.



A cafeteria serves meals for about 400 men at the camp.



Barracks and army cots are living quarters for workmen.

Manpower shortage listed as principal cause of tight lumber supply picture

Lumber Survey Commitee's 46th quarterly report lists lack of Woodsmen as first cause of shortage; finds stocks and cut below 1941

The problem of obtaining sufficient manpower to do the initial work in the woods was seen last week as the major problem in the lumber industry's attempt to keep up with an ever increasing demand for lumber products.

The conclusion was a part of the 46th quarterly report on lumber movement, consumption, stocks and anticipated consumption submitted to the Secretary of the Interior by the Lumber Survey Committee. Pointing out that war production programs call for increasing replacement of steel with lumber in many heretofore unlikely places, the committee said "existing sawmills can produce lumber in excess of the present war and essential civilian requirements, with sufficient manpower and operating equipment."

Estimated lumber consumption for the first nine months of 1942 is about 12 percent greater than for the corresponding period of 1941. Lumber consumption for the year is expected to total 38.5 billion feet, or 12 percent more than for the complete year of 1941. Military and defense plant construction, war housing and building repair—including farm storage—account for more than half of the estimated requirements for this year.

During the first three quarters of 1942, lumber consumption was 15 percent above lumber production and imports.

Estimated lumber production and imports during 1942 are in excess of 33.5 billion feet. To meet requirements for the year, about 1.8 billion feet will have been drawn from mill inventories, about 2.6 billion feet from retail yard inventories and about 0.6 of a billion feet from industrial and other distributors' inventories.

"Loss of manpower, particularly in the woods, has been and continues to be the principal factor in retarding lumber production." the committee said. "The manpower deficiency is estimated at approximately 14 percent. To meet war requirements for lumber, additional labor is needed, or more hours of labor."

Estimated mill stocks on Sept. 30, 1942, were 4,537 million feet, 9 percent below the figure of June 30, 1942, and 29 percent below September 30, 1941.

In its recommendations, the committee said:

"Freezing is a dangerous form of lumber limitation. Most lumber mills have to keep their products moving. Many have not the piling room and many more have not the working capital to carry unsold stocks. Control by freezing will retard production. It should be discontinued as soon as a constructive lumber limitation plan can be determined.

Criticizing the approach to the problem of lumber distribution, the committee said the problem has not been solved. It called the latest limitation order, which reserves nearly all Douglas fir grown on the west side of the Cascade Mountains for the Corps of Engineers, an "expedient." It added that in the Douglas fir region, large inventories usually built up in September and October, are expected to be less than half of the average for the past five years. Not having an adequate inventory to carry through the usual winter period, when logging is slowed by weather conditions, many mills may close, committeemen added.

With current manpower shortages in other industries, it will be difficult to hold the crews of such mills intact for resumption of operations. This is a crucial problem. It could be promptly and substantially relieved if the Canadian ban on log exports were to be lifted.

TRAFFIC on the Pennsylvania Turnpike dropped 50 percent during the month of October, 1942, as compared to October, 1941, according to the Pennsylvania Turnpike Commission. The commission reported that during October of this year, 107,000 vehicles rolled over the superhighway, as compared with 215,000 for October, 1941.

Navy construction set at $250,000,000 month

Construction of the bases and shore establishments from which fighting ships and planes of the navy operate against the enemy is being rushed at the rate of $250,000,000 a month, Rear Admiral Ben Moreell, Chief of the Bureau of Yards and Docks, reported recently.

Admiral Moreell was a speaker in the second program of the "Construction Goes to War" radio series sponsored by the Associated General Contractors of America. (*ENR*, Nov. 26, p. 743).

"'During the year, the Bureau of Yards and Docks has awarded approximately two billion dollars' worth of construction contracts, and we are now accomplishing construction work at the rate of $250,000,000 per month, with every expectation of increasing this rate in the near future." Admiral Morreell said.

"Needless to say, this tremendous output of construction constitutes a contribution of tremendous value to our total war effort. The contractors of America may well take pride in their share of this accomplishment."

"The loss of life and the capture of construction workers at Wake, Guam and Cavite illustrates the hazards of some navy construction work. Much of the work ahead will be in locations where enemy gunfire can be expected."

As an example of how well the navy construction job has been done, figures were quoted for work on Midway Island. Contracts were first signed in August, 1939, for $3,750,000 worth of construction to be completed in August, 1942. However, by the time of the battle of Midway—June 3, 1942—the construction work completed already amounted to $19,795,548, or about 5½ times the original program.

Bar civil servant's right to strike

In what was interpreted as a rebuke to the War Labor Board in its moves to assume jurisdiction over labor disputes between municipal governments and their employees (*ENR*, Nov. 19, p. 687), the New Jersey Civil Service Commission last week declared categorically that public employees had no right to strike.

The declaration was made in a decision upholding the right of the City of Newark to dismiss 15 employees in its garbage department, and to suspend 50 others who had participated in a six-day work stoppage early this Fall.

The strike was called off after the WLB intervened, at the request of Governor Edison, and one of its panels recommended reinstatement of the dismissed and suspended employees. The full membership of WLB is expected to act on recommendations of the panel this week. Meantime all the strikers were reinstated.

In upholding Newark's contention that its employees had no right to strike, the commission's opinion went on to say:

"In the whole scheme of government in this state there is no place for the settlement of differences which might arise between groups of departmental employees and the legally constituted officials in charge of such departments by way of strike.

"Public employees have their rights as do other citizens, but in the very nature of their employment, they must forego some of the practises which private employees may exercise." This, the commissioners asserted, was in return for tenure and other protective features assured them in their employment and for the public good.

New York Zoning Committee disbands, objectives "successfully accomplished"

Group declares work finished after 26 years of existence. Other cities take new actions on zoning commissions, laws.

After more than a quarter of a century of activity, the New York Zoning Committee last week voted to disband formally at the end of the current year because it had "successfully accomplished" the major purposes for which it was organized in 1916.

The committee, an unofficial citizens' organization, was formed to support the zoning laws of New York City first passed in 1916, and to promote the principle of zoning and structural planning, then in its infancy.

Once the committee had been organized by Frederic N. Pratt, Lawson Purdy, Edward M. Bassett and Herbert S. Swan, it began giving advice on zoning matters throughout the state, and spreading the principle of zoning by all appropriate means to municipalities in other states.

A statement announcing dissolution of the group said:

"The committee concludes its efforts in the knowledge that the principle of zoning now has been firmly established in the United States, and its major objectives soundly accomplished. The ending of its formal work is an event of more than local importance, since for nearly a generation the committee has exercised outstanding leadership in advancing the principles of zoning throughout the nation."

Philadelphia appoints commission

The Philadelphia City Council's Committee on City Planning and Zoning last week approved an ordinance creating a nine-member, non-salaried City Planning Commission. The 1943 city budget includes a $40,000 appropriation for a technical staff for this committee and other expenses.

The commissioners will be appointed by the mayor and will comprise a councilman, two heads of city departments, including the director of public works; a member of the board of education, and "five persons of suitable qualifications who hold no office of profit under the city or county." The chairman and vice chairman are to be elected by members.

Each year before Sept. 15, the commission must submit to the council a report on a six-year construction program, including estimated costs. Under the ordinance, the five commissioners who hold no public office will receive a $20 fee for each meeting they attend, the total not to exceed $400 a year.

Cleveland expands powers

After operating since 1915 in a limited advisory capacity, Cleveland, Ohio's, City Planning Commission recently was given full authority to direct all aspects of city planning and make them effective.

To assure proper direction of the new authority, granted by an amendment to the city's charter last month, the commission will have a paid director and staff of trained planners and engineers. All proposals of the city council and administrative departments—as well as those of semi-public agencies—involving any elements of city planning, must be submitted for recommendation of the commission before they can be carried out. Each year, the commission is to recommend a capital improvement budget for the following year, and make adjustments and recommendations and adjustments in connection with a comprehensive five-year capital improvements plan.

The commission's director and paid staff will be appointed under civil service procedures.

Chicago adopts ordnance

Chicago's 23-year-old zoning ordinance was voted out of existence recently, and replaced by a new law that had been in preparation for the past four years.

Under the former law, only five percent of the city was zoned for one- and two-family homes, with 95 percent of the municipal area zoned for revenue producing property.

The new law sets aside 40 percent of the city's area for single-family dwellings, and 15 percent for two-family homes.

Included in the new ordinance are provisions that every apartment building must provide garage facilities based on the group needs of every three apartments; that theaters may not be constructed unless there is adequate parking space for patrons within one block.

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Urge new Connecticut-New York highway

Meeting at Bridgeport, Conn., last week, the Fairfield County Planning Association went on record in favor of tentative plans for construction of a new 6-lane highway to be built through Fairfield County to connect with the existing Pelham-Port Chester (New York) Parkway.

The proposed highway would accommodate trucks and other commercial vehicles as well as pleasure cars, the association said, and will be built as a part of a postwar program to relieve the Post Road traffic situation.

Official U. S. Navy Photo
Released through Press Assn. Inc.

Naval airplane hangar blazes after sneak raid

A giant hangar at the U. S. Naval Air Station at Pearl Harbor, Hawaii, is fringed with flame after the Japanese "stab in the back" raid on the naval base Dec. 7, 1941.

Under billowing clouds of smoke may be seen fragments of planes shattered as they stood on aprons and runways, and of others hastily dragged from inside the structure.

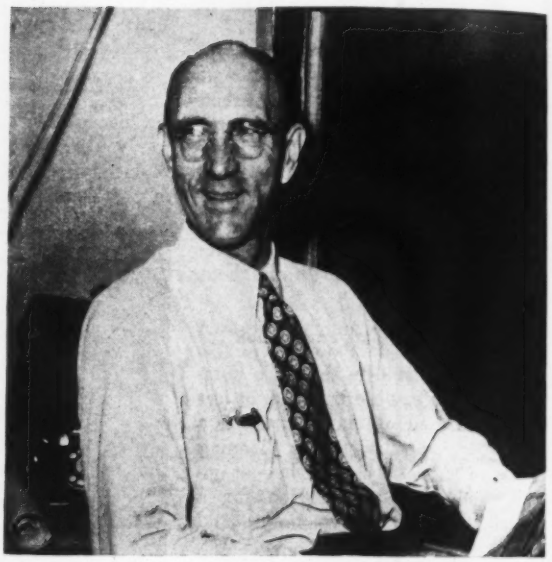
MEN AT WORK
on the
"Big Inch" Pipeline

One of the most spectacular of the war jobs now under way is the 1,250-mile project of the War Emergency Pipelines, Inc., which will transport crude oil from Longview, Texas, to the New York and Philadelphia refining areas. Some of the personalities on the job are shown here.

What is being done, and how, is the subject of a feature article to be published soon.

Above: Serving as vice president and general manager for WEP, Inc., is B. E. HULL, who has taken temporary leave from his responsibilities as president of the Texas, Texas-Empire, Texas-New Mexico and Kaw pipeline companies. Mr. Hull started his career as a rodman with a pipeline surveying crew in 1904.

Right: MAJOR A. N. HORNE, left his post as manager of the Empire pipe Line Co. to enter military service, and then was released by the Army a few months ago to take over the important task of general superintendent for WEP, Inc.



Above: "Chief" WILLIAM FALL LEAF, member of the Delaware tribe, is in charge of welding inspection for the C. S. Foreman Co., one of the contractors on the project.

Right: PAT WILSON, general superintendent for Anderson Bros., who hold a 190 mile contract on the pipeline, finds the going easier in company with his horse, Starlight.

Right: JACK HEARRELL, supervising engineer for the Defense Plant Corp., which is financing the construction of the pipeline. At one time Mr. Hearrell was city engineer simultaneously for the three Texas cities of Gladewater, Talco and Nagadoches, and also conducted a private practice in oil field engineering

Highway Research Board meet centers on studies of pavements and their bases

New committee set up to develop better means to determine load bearing capacity of soils under road pavements and airport runways.

Meeting for the second time outside of Washington in the 22 years of its history, and for the first time west of the Mississippi River, the Highway Research Board held three days of well attended sessions at the Statler Hotel in St. Louis, Dec. 1–4. Registrations totaled about 300.

The meeting was one of three meetings of highway engineers scheduled to be held in sequence in St. Louis, the Asphalt Paving Technologists having met there just in advance of the Highway Research Board meeting and the American Association of State Highway Officials meeting there this week, Dec. 7–9.

Technical subjects discussed included most of those under study by the several divisions and committees of the board, but main interest centered in the studies of flexible pavement because of new problems raised by the design of airport runways capable of carrying the heavy wheel loads to which they now are subjected. Summaries of the papers and discussions will be given in a subsequent issue.

Alcan Highway pictures

A surprise feature was a talk by Thomas H. MacDonald, head of the Public Roads Administration, on the Alcan Highway, a talk that was illustrated with colored photographs taken by Mr. MacDonald on his recent trip to Alaska. Many were air views of the highway and its bridges in various stages of construction. Mr. MacDonald also discussed the transportation problems involved in meeting the war and peacetime needs of Alaska.

Bearing capacity committee

Because of the urgent need for better knowledge of how to design pavements for the high loads to which they may now be subjected, Roy W. Crum, director of the Highway Research Board announced at the meeting that the executive committee had set up a new committee called the "Committee on Methods of Testing the Load Carrying Capacity of Soils and Pavements".

The committee is headed by K. B. Woods, professor of civil engineering at Purdue. Other members are T. E. Stanton, California Division of Highways; Keith Boyd, North Dakota Highway Department; E. A. Finney, Michigan Highway Department; E. S. Barber and A. C. Benkelman, Public Roads Administration; R. R. Philippe, Ohio River Division, U. S. Engineer Department; R. M. Haines, Office of the Chief of Engineers; and L. A. Palmer, Bureau of Yards and Docks. Fred Burggraf of the Highway Research Board is secretary. The committee held its organization meeting at St. Louis.

Prize awarded

The third presentation of the Highway Research Board Award for a paper of outstanding merit among those prepared during the preceding year was made at the annual dinner to M. G. Spangler, research associate professor of civil engineering, and M. B. Russell, research assistant professor of soils, Iowa State College, for their paper "The Energy Concept of Soil Moisture and the Mechanic's of Unsaturated Flow". Because of the demand for bronze for war purposes, the award was made simply in the form of a certificate to be replaced by an inscribed bronze plaque after the war.

At the annual dinner, Prof. F. C. Lang, chairman of the board, outlined the work the board is doing to aid the war effort. Among the most important are the bulletins entitled "Wartime Road Problems", giving up-to-the-minute reports on findings of the board that will help highway engineers in meeting special problems growing out of war restrictions.

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WPB lifts ban on bridge work in Connecticut

William J. Cox, Connecticut State Highway Commissioner, announced last week that a recent War Production Board ban on work on two bridges under construction by his department (*ENR*, Dec. 3, p. 755) had been lifted.

Commissioner Cox said that WPB officials had been apprised of the fact that only a relatively small amount of work remains to be done on the New London-Groton and Hartford-Eastern bridges, and countermanded the earlier order halting the work in order to permit the arteries to be put in service.

Cox had said when the order was first announced that the New London Bridge will be ready for service within a few weeks—as soon as workmen complete riveting steel, placing the concrete deck and sidewalks, and do cleanup work. The bridge at Hartford was opened last September, and work subject to the stop order is on one of the several approaches.

WASHINGTON HIGHLIGHTS

JURISDICTIONAL disputes in the construction industry will not be greatly affected by the CIO-AFL agreement worked out last week under which disputes between the two labor bodies will be referred to a joint committee and, if necessary, to an impartial arbiter. Most disputes over jurisdiction in construction arise among AFL unions and are not affected by the new agreement. There have been some disputes between AFL unions and United Construction Workers, formerly a CIO union. The UCW, however, is now affiliated with John L. Lewis's United Mine Workers and is not expected to consider itself bound by the agreement.

CONSTRUCTION of pavement and bridges on the highway between Paulding City and Defiance, Ohio, has been ordered halted by the War Production Board, in furtherance of its program of cutting down the volume of construction.

SEVERAL types of construction, already controlled in other ways, have been exempted from the terms of the construction limitation order, L-41. Construction of railroad tracks, for which permission must be obtained anyway from WPB's transportation equipment division, is exempted, though other railway structures are still covered. Construction of facilities by the communications industry is also exempted from L-41 because it is already regulated under P-130 and 132.

New construction activity in the continental United States is expected to decline to about $7.3 billion in 1943, as compared with a preliminary estimate of $14 billion in 1942, Secretary of Labor Frances Perkins reported last week. Private construction is expected to drop from an estimated $3.4 billion in 1942 to about $1.4 billion in 1943. Construction financed from public funds, although not expected to decline so sharply, is forecast at $5.9 billion in 1943 as compared with $10.6 billion in 1942.

T. D. BOUCHARD, minister of roads for the province of Quebec, Canada, has announced that New York State authorities plan construction of a short section of the Montreal-New York highway across the border, uniting the Canadian section of the highway to New York Route No. 9. The cost of the section is $132,000, and work will be undertaken by New York state as soon as permission is received from war construction agencies.

Navy account of Pearl Harbor damage notes quick aid of construction men

Story of Jap sneak attack credits Naval and civilian engineers and construction workers for work in repairing air-raid damage

The Navy Department account of damage incurred a year ago in the surprise attack on Pearl Harbor is devoted principally to telling how "aircraft temporarily disabled every battleship and most of the aircraft in the Hawaii area" and how "other naval vessels, both combat and auxiliary, were put out of action."

Damage to shore installations and the sinking of a large floating drydock were only incidentally mentioned. Yet the repair of these facilities was a necessary prerequisite to the repair of the fighting vessels of the fleet.

On Dec. 7, 1941, when Japanese bombs started to fall on Pearl Harbor, the Bureau of Yards and Docks was carrying on a major construction program in that area. Immediately upon receiving news of the attack, the Bureau placed at the disposal of the commandant of the 14th Naval District all personnel, machinery, and supplies of the contracting organizations working under its cognizance.

Literally before the bombs stopped falling, civilian employees of the Navy itself and of its contractors were at work repairing craters, fighting fires, removing debris and erecting emergency shelters against shrapnel and bomb splinters. One contractor, the Turner Construction Co., mobilized 1,200 men and all available trucks for this purpose.

The work of salvaging and rehabilitation of shore structures and services ranged all the way from filling in bomb craters in roads and airfield runways, and the replacement of broken glass in buildings on up to the virtual rebuilding of badly damaged airplane hangars. Water, sewage and electric systems sustained considerable damage, but they were restored to service in a remarkably short time. Work that would have required hours or days for completion under normal conditions was accomplished while the raid was still in progress.

Although damage to ships bulked larger than that to shore installations, repair of the latter posed the more immediately urgent problem. Emergency water, air, gas, and electric lines had to be rigged. Emergency power plants had to be brought to the scene. Scattered shelters for airplane protections had to be built with the greatest speed to accommodate air reinforcements arriving from the United States and to be prepared for additional attacks that might come.

The subsequent pressure of work on the Hawaiian public works department has been intensified by the job of installing new protective devices whose necessity was revealed by the raid. Moreover, additional ship repair facilities have had to be built at Hawaii to handle ships damaged in the Midway, Coral Sea, and other Pacific battles.

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California sees drop in highway revenues

C. H. Purcell, California State Highway Engineer, last week estimated that his department would suffer a loss of nearly $30,000,000 in revenues for the next biennium. The estimate was a part of an annual report to the highway commission.

Purcell estimated the Division of Highways will have for expenditure on state highways outside the incorporated cities a total of $43,416,500, as compared to $72,841,500 provided for the same purpose in the current budget. He attributed the sharp decrease to tire and gasoline rationing, and loss of federal aid.

New studies launched on Central Valley Project

A speed up of engineering and economic studies on the Central Valley Project in California, to prepare the huge power and irrigation development to meet the further impact of war and of postwar expansion, has been ordered by Secretary of the Interior Ickes.

The secretary referred in his order to a list of 24 cooperative studies suggested to him by John C. Page, commissioner of the Bureau of Reclamation.

More than 40 federal, state and local agencies will cooperate in the studies, Ickes said. Dr. Harlan H. Barrows, consulant to the bureau and formerly head of the department of geography at the University of Chicago, has been designated as director of the work. He will be assisted by a field coordinator and a staff, soon to be named, with headquarters at the project's offices at Sacramento.

Studies to be made are to be divided into three groups: (1) problems related to the prosecution of the war; (2) problems related to postwar adjustments, and (3) problems inherent in the project since its inception.

The Texas-Illinois leg of the 24-in. war emergency pipeline (*ENR*, July 16, p. 76) moved 70 miles nearer completion during the last two weeks, despite heavy rains that retarded construction on the northern stretches of the project.

Official U. S. Navy Photo
Released through British Combine

Floating drydock sunk by Jap bombers

Listing heavily to starboard is a huge floating naval drydock at Pearl Harbor, bombed repeatedly in the Japanese attack on the naval base a year ago. At left, one wall of the drydock is far out of the water, while the other wall, in right foreground, is barely discernible above the water.

In the dock at the time of the attack was the U. S. destroyer Shaw—whose shattered hull is shown above, its bow almost completely cut off. Fitted with a jury-rigged bow, the destroyer was later raised and steamed to the mainland under its own power for repairs. It has since rejoined the fleet.

MEN AND JOBS

Col. Donald G. White, head of the U. S. Engineers working on army bases in Bermuda, and one of the first American technicians to come to Bermuda in connection with the base sites, has been transferred to another post. He is succeeded by **Maj. A. W. Betts.**

Joseph E. Gill, in charge of the airport section on engineering work in the Louisville, Ky., district office of the Corps of Engineers, has been promoted to the rank of lieutenant colonel.

Lee B. Brandon, engineer of Lauderdale County, Miss., for the past 14 years, has been commissioned a lieutenant in the Coast Artillery.

Frank W. Griffith, Fort Dodge, Iowa, has closed his architectural office for the duration to accept a position as inspector at a new naval air training base in Florida.

J. G. Archambault, former Montreal civil engineer, has been made a wing commander in the Royal Canadian Air Force, commanding a training school.

Walter Olds, an architectural engineering graduate of Iowa State College in 1942, has joined the Corps of Engineers at Charleston, S. C.

T. B. Wilson, senior right-of-way engineer in division 10, for the North Carolina State Highway and Public Works Commission, has been made acting chief right-of-way engineer, and will be stationed at Raleigh. He succeeds **Hal T. Macon,** who retired recently due to illness.

Capt. R. W. Scott of Albert Lea, Minn., is now stationed with the Corps of Engineers at Clinton, Iowa.

S. P. Swaringen, resident engineer, division 2 for the North Carolina State Highway and Public Works Commission, has resigned to enter private employment.

Andrew K. Richardson, city engineer of Helena, Mont., since 1940, has joined the Navy as an ensign.

B. A. Whisler, associate professor of civil engineering at Iowa State College, has been commissioned a lieutenant in the Army Sanitary Corps, and assigned to Washington, D. C.

Columbia County, Washington, has agreed to share the services of its county road engineer, **C. A. Winnett,** with neighboring Garfield County. Under the plan, Mr. Winnett will spend eight days in Garfield county each month.

Curtis Marston, formerly of Ames, Iowa, has been employed as a structural design engineer with the Donald Warren Structural Engineering Co., of Oakland, Cal.

N. Hardin Massey, Charlotte, N. C., senior engineer with the U. S. Engineers in charge of construction of several war projects recently, has been given a furlough to enter military service as a major in the Chemical Warfare Service.

Lt. Col. Eric S. Barron, formerly assistant to the engineer of construction for the New York Port Authority, is now stationed with a Coast Artillery Regiment in Texas.

Allen Siler, of Asheville, N. C., has resigned as assistant division engineer for the North Carolina Highway and Public Works Commission, after 20 years of service. He joined the Asheville Construction Co. to supervise construction of a military highway.

Victor E. LeRoy, Denver, Colo., building contractor, has been commissioned a first lieutenant in the Corps of Engineers and is now on active duty in Colorado.

Earl J. Sharpe, formerly of the engineering staff of the city of High Point, N. C., has been made superintendent of city streets succeeding Gurney T. Royals, who died recently.

Charles M. Mardel has resigned from the engineering department of the Pacific Gas & Electric Co., of San Francisco, Cal., to accept appointment as plant engineer at the Calaveras Cement Co.'s plant at San Andreas, Cal.

Harold L. Kurtz, superintendent of the sewage treatment plant at Butler, Pa., has announced his resignation in order to join the War Department as an associate engineer.

Louis Silva, chief pumping plant engineer in the Santa Cruz, Cal., water department, recently entered the Army Air Corps.

Three engineers of the North Carolina Highway and Public Works Commission have recently resigned to enter the armed services. They are: **W. H. Webb, Jr.,** office engineer in the right-of-way department; **T. C. Hartman,** office engineer for the construction division, and **B. Swindell Jenkins,** senior draftsman for the bridge maintenance division.

Col. C. L. Hall of the Corps of Engineers has announced the appointment of **Lt. Col. E. C. Landberg** as district engineer at Wright Field, Dayton, Ohio. Colonel Landberg has recently been area engineer in charge of construction in Virginia, and was acting engineer at Wright Field for two months in 1941.

Capt. Leon Gottlieb, associated with the Alabama State Highway Department since July, 1922, and formerly bituminous engineer for the department, left recently for Camp Claiborne, La., to assume duties with the Corps of Engineers.

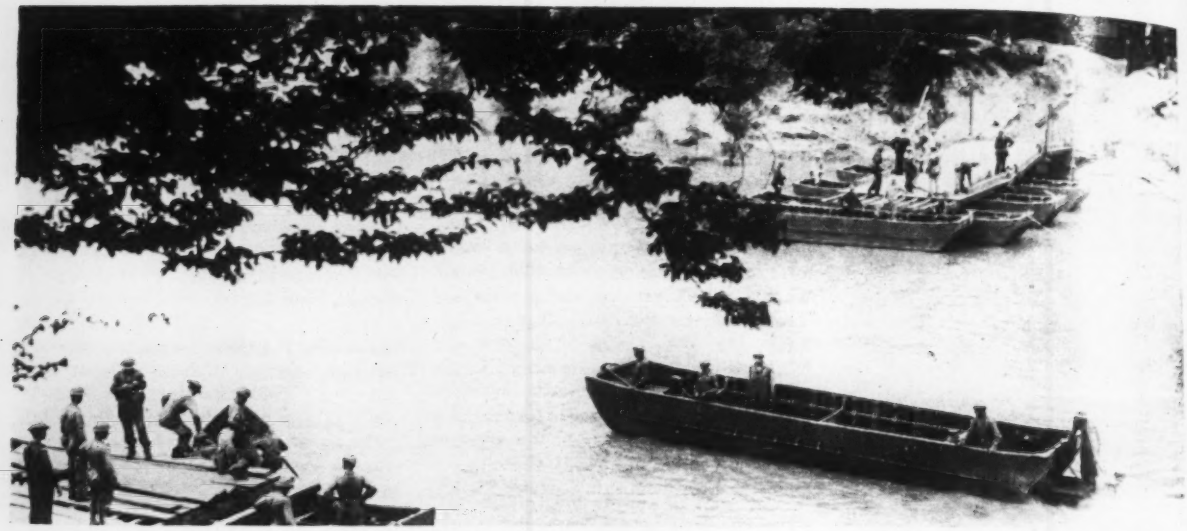
Capt. Richard L. Jones, for 20 years assistant operator and engineer inspector for the Milwaukee Sewerage Commission, has been promoted to the rank of major in the Army Air Forces.

L. Ben Prince, chairman of the North Carolina Highway and Public Works Commission since April 19, 1941, resigned his post Nov. 30 to accept a commission as a major in the army's ordnance department. A veteran of the first World War, Mr. Prince formerly lived at Hendersonville, N. C.

Gerald Gimre, executive director of the Nashville, Tenn., Housing Authority, has been commissioned a lieutenant in the U. S. Naval Reserve. He was formerly a consultant for the state planning commission, and the National Resources Commission and National Housing Agency. Lt. Gimre will be succeeded in his Housing Authority post by **Charles W. Hawkins,** engineer-secretary for the City and County Planning and Zoning Commission.

George Percival Wilbur, formerly contracting engineer and manager of the sales division of the Ontario division of the Dominion Bridge Co., Ltd., has been appointed manager of the Ontario division, succeeding the late A. Ross Robertson.

With the closing of the North Carolina State Highway and Public Works Commission's construction office at Sanford, Dec. 1, the following personnel transfers and changes have occurred: Chief engineer **W. T. Smith** now is working from the division office at Sanford; **Frank Porter** has accepted a position with the engineering department at Fort Bragg, N. C., and **Worth McLeod** has accepted an engineering post on the construction of a marine base in the state. **C. C. Cooke** has been transferred to the Elizabeth City highway office.



Simulated stress of battle is part of field practice in quick ponton bridge building

Army Engineer School Teaches War Building

Capt. Thomas H. Evans
Assistant to Director, Officer Candidate School

The Corps of Engineers is faced today with the task of building up its own staff of officers as well as providing bases and facilities for a vastly expanded army. Officers are required for the Engineer Amphibian Command, the Engineer Aviation Battalions and Engineer Air-borne Battalions, among many new engineer units recently created.

The Engineer Officer Candidate School at Fort Belvoir, Va., is at present the major activity of The Engineer School. Since war was declared, it has expanded from a minor undertaking to an institution turning out more graduates per month than most universities do in a year.

A class of candidates enters the school every other Thursday and graduates twelve weeks later. Six classes are in the school simultaneously. All subjects are taught by a large staff of well qualified officers supervised by a Director appointed by the Commandant of The Engineer School.

Much time and effort is devoted to testing the leadership ability of the candidate. Most of these tests are practical, involving leading and organizing one or more platoons in a field operation such as bridging, reconnaissance, long marches, or close order drill. Candidates also may serve as officer of the day in their battalions. Men are rated for intelligence, initiative, force, judgment, handling of men, physical activity, physical endurance, military bearing and neatness, cooperation, loyalty and general suitability.

The first few days at camp consist of registration, equipping, quartering, orientation lectures, drill and other matters. The remainder of the twelve weeks is spent in intensive work and study.

Instruction covers about forty different subjects, ranging all the way from basic work in Army administration and fundamentals of training, through the use and care of weapons, to essential engineering subjects such as bridges, demolitions, camouflage, water supply and heavy equipment. All these subjects are taught from a practical rather than a theoretical aspect.

The candidate is given every assistance to help him complete the course successfully. In case he is below passing in either his academic courses or leadership after the fourth or eighth week, the Director may recommend he be given additional special training to correct his deficiency, provided he shows promise otherwise.

Any officer candidate who has had engineering training or experience and can apply himself to study should have no trouble in passing the academic part of the course. It is not a requirement, however, that a man must have engineering education or experience to qualify for the Engineer Officer Candidate School. Due to the practical nature of

Construction of tank barriers like the one shown at left is a study of first importance to Officer Candidate School students.

the work the average minimum requirements for successfully passing the academic subjects seem to be: a high school education, ability to apply mathematics through simple algebra and geometry, ability to study, and a conscientious attitude.

After successfully completing the course the officer candidate is graduated and commissioned a second lieutenant in the U. S. Army.

Qualifications listed

With the exception of selectees deferred for dependents only (class 3A) officer candidates are chosen from among Selective Service registrants who have been inducted, or from among other enlisted men.

Before attending a school, they must serve a minimum of three months as enlisted men, must be of good character and score above 110 on the Army General Classification Test.

If a man meets these requirements, he submits a letter of application to his company commander giving a first and second choice of army officer candidate schools.

Men in 3A are given the opportunity of volunteering for induction in order to compete for selection as officer candidates. If the volunteer officer candidate is unsuccessful during the process, he has the privilege of requesting relief from active service.

Lowdown on Shutdowns

by R. B. Colborn

Washington Correspondent
Engineering News-Record

Last summer reports were being heard all over the country of war plants shutting down because of lack of materials. Now once more similar reports are in circulation.

But there's a difference; this time the shutdowns are not directly caused by material shortages, but are deliberate—the result of contract cancellations or slowdown instructions from Washington. Military secrecy forbids publication of most of the reports, but some are public property—e.g. cancellation of construction of Continental Ordnance's $45,000,000 tank-armor plant (*ENR*, Dec. 3, p. 755), slowed expansion of the Wabash River ordnance plant, cancellation of Nash-Kelvinator's cargo plane contract, and cutting of many shell contracts in the Chicago area.

The fact is that the present shutdowns are evidence that the military chiefs and the production chiefs have learned the lessons of last summer's shutdowns.

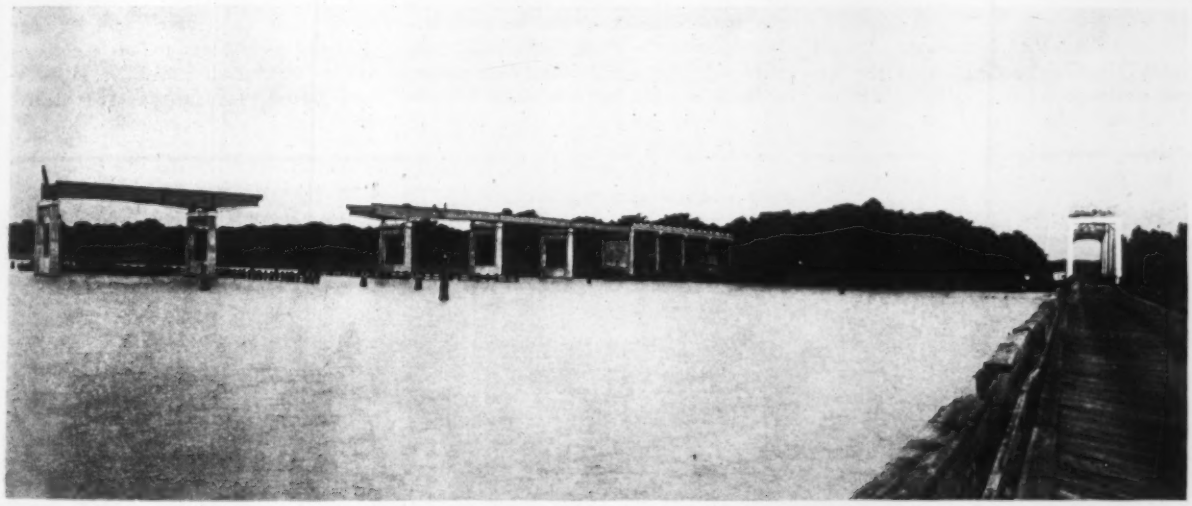
That lesson is that even America's resources are limited. And the corrolary is that setting of unattainable production goals may be good psychology, but it's mighty bad engineering; it interferes with planning for maximum production when only a limited supply is available.

Applying the lesson, however, is not a mere matter of slashing all production goals horizontally. Choices have to be made. Tank schedules, for instance, are being deeply cut, as are the associated armor plate and parts programs. Plans for shell production—in many sizes—are being reduced. Meanwhile, aircraft production plans are being scaled down much less. (Donald Nelson's announcement that next year's plane output will double this year's amounts to a moderate reduction in the original 1943 quota.) Schedules for 1943 output of merchant ships and light naval vessels may even increase.

These shifts are beginning to become visible in current contract cancellations. They will be much clearer upon the completion of a revision of the master priorities directive, changing the relative standing of different end-products, which is now underway. Manufacturers generally will then see the result in wholesale re-rating of their contracts.

Until a few months ago the military, naturally enough, wanted to hedge all their bets.

The first clear sign of the new decision was the reduction in the Army objective from something over 13,000,000 men to 9,500,000. The second was the African offensive. And the current reorientation of production goals is the third.



New bridge on Georgia's Coastal Highway, and evidence of immediate need

Two sets of 91-150-91 ft. span continuous plate girders form the main river crossing of a 2,382 ft. deck bridge on the Coastal Highway in Georgia. Flanking the continuous units are two 85 ft. simple girder spans with thirty-six 40-ft. reinforced concrete deck girder approach spans.

The roadway will be two 22-ft. wide lanes separated by a center mall. The new bridge has a fixed clearance of 45 ft. above high tide and replaces a very narrow and inadequate bridge that has a swing span to permit navigation.

The approaches to the structure are over soft material that will be removed by dragline immediately ahead of a pumped fill and embankment, to be made by hydraulic dredge. Considerable difficulty has been experienced in getting a dredge but it is expected that one will be at the work shortly.

The substructure and concrete approaches for the bridge were built by W. F. Scott Co. of Thomasville, Ga. under a $423,500 contract. J. C. Scott was superintendent and E. W. Ellis in charge for the Georgia highway department.

The superstructure was fabricated and erected by the Nashville Bridge Co. for $138,764. Mr. McMurtry was erection superintendent and George Roberts resident engineer for the state. The bridge is in the Savannah area where D. D. Hankins is division engineer. C. N. Crocker is bridge engineer and M. L. Shadburn state highway engineer.

This Week on the Scrap Front

The nation needs scrap metal—17,000,000 net tons of it—by Dec. 31 of this year to enable the steel mills to meet the heavy demands of a rapidly expanding war industry. To get this scrap from its resting place in junk yards, contractors' lots and city storage yards, to the mills, is a job which the engineering and construction industry can do well. Here are some of the developments of last week:

In spite of statements that steel mills are "resting easy," and that scrap dealers are overstocked, the fact remains that most of the non-recurring scrap has gone into armament shipped abroad, according to Lessing J. Rosenwald, director, Conservation Division, and H. G. Batcheller, director, Steel Division, War Production Board.

Consequently, the problem of getting required iron and steel scrap for next year will entail a deeper penetration than ever of the dormant scrap resources of industry, of the farm and of heavier household metals.

Current mill inventories of scrap are not large enough to satisfy probable future demands, and the situation could easily become acute again in less than a week, the officials said.

The two men added that government stockpiles will be established if the time ever comes when scrap dealers cannot handle the flow of salvaged materials through the mill. The stockpiles would be insurance against any scrap shortage that might develop.

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Meanwhile, the Newspaper United Scrap Metal drive throughout the nation was reported last week by Richard W. Slocum, chairman of the campaign, to have netted 6,000,000 tons of scrap iron and steel and other strategic metals.

Although the collection formally ended more than a month ago, Mr. Slocum explained that many drives sponsored by newspapers are still in progress in various states. Reports from 18 states show per capita collections of more than 100 lb., and the per capita collection for the nation, on the basis of the latest tabulation, is 81.9 lb.

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Materials from an auxiliary locomotive roundhouse built at Galesburg, Ill., by the Chicago, Burlington & Quincy Railroad during the first war, are being used to construct an addition to the main roundhouse at Beardstown, 100 miles away.

The Galesburg roundhouse is being razed, after 20 years of disuse.

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In Maryland, Governor O'Conor was asked by the Maryland Salvage Section of the War Production Board to turn over about 20,000 steel markers along the state's highways. The markers had been placed every tenth of a mile along the road. The metal signs each weighs slightly over 15 lb. according to a letter sent the governor.

In Chicago, construction is slated to start Dec. 15 on a new plant to detin tin cans. The government financed project will occupy a 13-acre site along the sanitary district canal, and will be capable of handling 60,000 tons of cans per year when it begins operations early next summer.

★ ★ ★

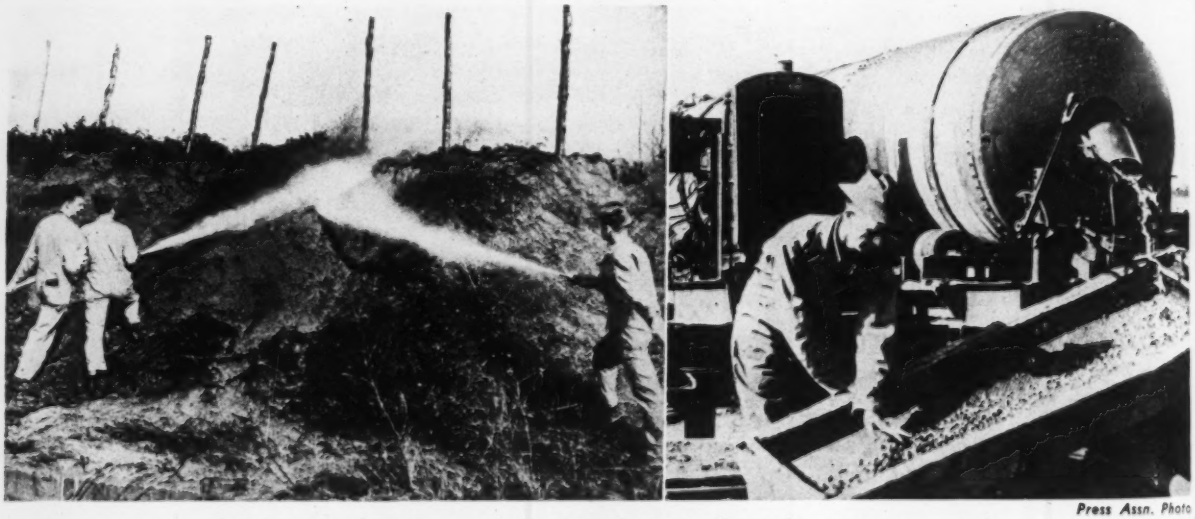
Steel girders salvaged from a former roller skating rink destroyed by fire in Harrisburg recently will be used to rebuild bridges in Pennsylvania that were destroyed by floods last summer, according to the state department of highways.

Fifty tons of dynamite clear power excavation

A tremendous explosion recently marked the completion of the hydraulic portion of the mammoth hydro-electric development on the Saguenay River, near Shipshaw, Que., as nearly 100,000 lb. of explosives removed the rock plug separating the tailrace excavation from the Saguenay River.

The 1,000,000 hp. project, being built for the Aluminum Company of Canada, was started about 16 months ago, and is being constructed under the supervision of the Foundation Co. of Canada, Ltd. H. C. Acres and Co. are consulting engineers on the work.

In the 16 months since the start, six large dams have been built, six large diameter rock shafts and six tunnels, together with much excavation in canal, powerhouse foundations and tailrace work, have been completed.



Press Assn. Photo

Army rifle butts prove to be placer mines for scrap metals

Bullets accumulated in the 20 years that the firing range at Fort Knox, Ky., has been in use, have proved a scrap metal bonanza.

Washed down by heavy streams of water in a placer mining operation, the butts have been yielding "pay dirt" averaging about 100 pounds of metal to the cubic yard. The metal, which includes lead, copper, antimony, zinc and nickel, is worth about $176 per ton.

OBITUARY

Van Tyson Moon, 55, chief engineer for the Oklahoma state highway department, died at Oklahoma City Dec. 4. He became chief engineer of the department when the late E. W. Marland became governor, and was kept in this position under the new state administration. A veteran of World War I, he was a captain in the Corps of Engineers.

Frank C. Roberts, Sr., 81, civil engineer and designer of many large Philadelphia office buildings, died Nov. 30 in Wynewood, Pa. A native of New York City, he was graduated from Princeton University in 1883 and served a year at the university as an engineering instructor before beginning his commercial career. Beginning in 1901, when he designed and supervised construction of the largest charcoal blast furnace of the time, Mr. Roberts designed more than 75 iron and steel plants. He also supervised construction of numerous railroad bridges and refrigerating plants and invented many labor saving devices.

Leon Bly, 66, a retired civil engineer of Paynes Creek, Cal., died recently.

Alvin G. Smith, 79, town engineer of Hempstead, N. Y., from 1929 until his retirement in 1935, died recently at his home at Freeport, L. I.

James E. MacKenzie, 57, one of British Columbia's best known civil engineers, died recently. He had spent his professional life in railway construction work, and was at one time in charge of work at the Bremerton Navy Yard in the state of Washington.

William L. Popp, 47, city engineer of San Jose, Cal., for the past 21 years, died there recently.

William M. Maxwell, 93, civil engineer of Brevard, N. C., died there Nov. 29.

Gerard H. Laureyns, 76, civil engineer and architect, died Dec. 2 at East Orange, N. J. Until his last illness, Mr. Laureyns had been associated for more than 40 years with the New York building firm of Marc Eidlitz & Son, Inc.

Fredrick Ashley Pneuman, 43, well known bridge designer and an employee of the American Bridge Co. for 20 years, died recently at Gary, Ind. He was one of the engineers who designed the San Francisco-Oakland Bay Bridge, and supervised spinning of the cable used in its construction. He also assisted in designing the Whitestone Bridge in New York City.

B. F. Henry, 75, of Benton, Ark., who served several terms as a county surveyor and was once mayor of Benton, died Nov. 30.

Harold T. Macon, 43, former chief right-of-way engineer for the North Carolina State Highway and Public Works Commission, died Dec. 3 at Raleigh.

Frank T. Gleeson, 64, western construction engineer, died Nov. 28 at Los Angeles, Cal.

Claude I. Grimm, 56, civil engineer of Portland, Ore., died at his home Dec. 2. He had been supervising engineer of design and construction of the Bonneville power and navigation project as well as for other flood control work in the Pacific Northwest.

J. W. Johnson, veteran resident of Waycross, Ga., and former engineer for the Waycross city waterworks, died there Dec. 2.

Capt. Thomas Ward Bailey, division engineer of the Texas highway department at Del Rio for many years, died recently there. He was 68.

Arthur Wyndom Hodgkins, 75, retired government architect and lifelong resident of Washington, D. C., died there Nov. 29.

CONTRACTS AND CAPITAL

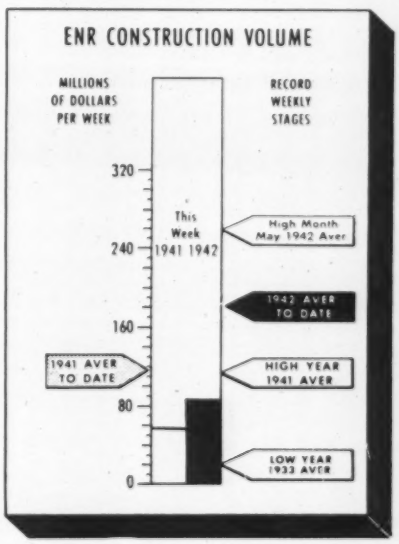
ENGINEERING construction volume for the week, $85,268,000, is 44 percent higher than the total for the corresponding week last year, but declines 17 percent from last week. Public construction tops the 1941 week by 154 percent as a result of the 337 percent climb in federal work, but private volume is 89 percent below a year ago. Both public and private construction are below a week ago, declining 17 and 16 percent, in that order. Federal work is 17 percent lower than in the preceding week.

The current week's volume brings 1942 construction to $9,120,618,000, an increase of 58½ percent over the $5,751,563,000 reported for the 50-week period last year. Private work, $549,240,000, is 53 percent under the period in 1941, but public construction, $8,571,378,000, is up 87 percent due to the 136 percent climb in federal work.

In the classified construction groups, gains over last week are in waterworks, bridges, industrial buildings, earthwork and drainage, and unclassified construction. Increases over the 1941 week are in waterworks, public buildings, and unclassified construction.

New capital for construction purposes for the wee ktotals $4,334,000. This compares with $23,062,000 for the corresponding week last year. The current week's new financing is made up of $3,350,000 in corporate security issues, and $984,000 in state and municipal bond sales.

New construction financing for the year to date, $10,211,597,000, is 62 percent greater than the $6,319,656,000 reported for the 50-week period a year ago.



CONTRACTS

(Thousands of dollars)

	Week Ending Dec. 11 1941	Dec. 3 1942	Dec. 10 1942
Federal	$18,250	$95,652	$79,823
State & Municipal	14,119	3,853	2,387
Total public	$32,359	$99,505	$82,210
Total private	26,706	3,638	3,058
TOTALS	$59,065	$103,143	$85,268
Cumulative 1942	(50 weeks)		$9,120,618
1941	(50 weeks)		$5,751,563

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1941 50 weeks	1942 50 weeks
NON-FEDERAL	$1,368,538	$632,411
Corp. Securities	357,434	181,229
State & Mun.	428,363	211,027
U.S.H.A. loans	30,399	.....
R.E.A. loans	100,500	.....
R.F.C. loans	288,842	157,455
Fed. Aid—Highways	163,000	82,700
FEDERAL	4,951,118	9,579,186
TOTAL CAPITAL	$6,319,656	$10,211,597

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Dec. '42	283.69	136.37
Building Cost	Dec. '42	226.63	122.51
Volume	Nov. '42	462	202

FHA MORTGAGES

	Week Ending Dec. 6 1941	Nov. 28 1942	Dec. 5 1942
Selected for appraisal			
Title II	$17,987	$3,506	$3,671*
Title VI	$5,127	$7,332	$6,649*

*Subject to revision.

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

AIRPORT PAVING, NEW JERSEY

OWNER: Civil Aeronautics Administration, First Region, LaGuardia Field, N. Y.

PROJECT: Concrete paving of runways, taxiways and apron for municipal airport in New Jersey. Includes necessary earth excavation, sand-gravel sub-base, and concrete and reinforcing steel for purposes other than paving. Pavement of plain concrete to be 6-in. section with thickened edges. It is to be constructed one or two lanes at a time. Cement content of concrete to be approximately 6.0 bags per cubic yards. Originally the bid schedules called for high early strength cement, but were subsequently changed to standard portland cement.

CONDITIONS: Contractor to furnish all materials, and depending upon which schedule the contract was awarded, to complete work in 90, 115 or 130 days. Rail and highway transportation facilities available. Wage rates are: skilled labor, $1.50 to $2.12½ per hour; semi-skilled, 75c. to $1.75; and common, 75c. Operations are expected to continue into cold weather, with winter methods of construction made necessary.

BIDS: Five bids were opened October 24, 1942, on three schedules. On Schedule I, 296,200 square yards of concrete pavement were required; on Schedule II, 399,800 square yards; and on Schedule III (basis on which award was made), 424,300 square yards. Otherwise requirements were the same in all schedules. Bids on Schedule I ranged from $767,496 to $1,039,800; on Schedule II, from $1,018,792 to $1,402,400; and on Schedule III, from $1,076,779 to $1,488,150.

Schedule III

LIST OF BIDDERS:

1. Union Paving Co., Philadelphia, Pa. (contract) ... $1,076,779
2. J. Leopold & Co., Inc., New York, N. Y. ... 1,109,290
3. Thomas Gallo, Irvington, N. J. ... 1,211,095
4. Francis A. Caruso & Son, Philadelphia, Pa. ... 1,457,999
5. S. J. Groves & Sons, Inc., Ridgefield, N. J. ... 1,488,150

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Earth excavation	500 c. y.	$1.50	$1.50	$1.00
2. Concrete pavement, plain	424,300 s. y.	2.53	2.60	2.85
3. Sand-Gravel sub-base	1,000 c. y.	1.90	5.00	1.00
4. Concrete, for miscellaneous structures	20 c. y.	30.00	15.00	15.00
5. Reinforcing Steel	500 lb.	.10	.12	.08

AIRPORT, TEXAS

OWNER: Civil Aeronautics Administration, Fort Worth, Tex.

PROJECT: Grading, draining, paving, fencing, conditioning, seeding, lighting and installation of water well and towers at airport in Terrell County, Tex.

CONDITIONS: Contractor to furnish all materials except boundary light cones, 51-ft. tower, "G" and "T" cabinets, three-conductor No. 8 parkway cable, lightning arrester, ground rods, Type A-J junction boxes, switches, boundary light globes and fittings, 36-in. rotating beacon, wind cone assembly, wind sock, hazard lights, warning signs, and one 5 and one 25 KVA engine-generator, complete. Time for completion: Schedules I and II, 90 days; Schedule IV, 60 days; and Schedule V, 30 days. Shortage of water in area may necessitate beginning with construction of water well (Schedule V) first so that water will be available for grading. Wage rates specified are: skilled labor, $1.00 to $1.50 per hour; semi-skilled, 40c. to $1.00; and common labor, 40 to 50c. Project has priority rating of AA-4.

BIDS: Bids were received October 26, 1942, on all schedules except Schedule III. List of bidders on each schedule are shown below with the amount of each bid.

Schedule I

LIST OF BIDDERS: (Engineer's estimate, $77,152)

1. C. Hunter Strain, San Angelo, Tex. (low bidder) ... $66,211
2. Bleeker Constr. Co., Mineral Wells, Tex ... 100,327
3. Cage Brothers, Uvalde, Tex ... 108,860
4. Holland Page, Austin, Tex ... 151,647

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Fence, Class D	1,260 rd.	$1.50	$4.00	$6.10
2. Grading	57,000 c. y.	.37	.35	.50
3. Excavation, unclassified	100 c. y.	1.00	2.00	1.00
4. Conditioning, surface	120 ac.	22.00	180.00	30.00
5. Clearing and grubbing	125 ac.	18.00	20.00	80.00
6. 8-in. pipe, closed	830 l. f.	.95	1.00	1.30
7. 8-in. pipe, open jointed	18,014 l. f.	.80	1.20	1.15
8. Aggregate, trench backfill	4,600 ton	2.50	3.00	3.60
9. Plain concrete headwall	3 ea.	85.00	70.00	160.00
10. Seeding	210 ac.	22.00	10.00	30.00
11. Gate, fence	1 ea.	25.00	50.00	175.00
12. Open ditch excavation	3,100 c. y.	.75	.50	.80
13. Rock riprap	10 c. y.	15.00	12.00	12.00
14. 3-in. fiber duct	1,000 l. f.	.65	....	2.40
15. Concrete (1:2:4 mix)	10 c. y.	40.00	40.00	24.00
16. Reinforcing steel	200 lb.	.08	.25	.12
17. Rock excavation	300 c. y.	2.00	3.00	3.00
18. Rock riprap, in place	200 c. y.	12.50	10.00	9.00

Schedule II

LIST OF BIDDERS: (Engineer's estimate, $90,350)

1. C. Hunter Strain, San Angelo, Tex. (low bidder) ... $105,690
2. Holland Page, Austin, Tex ... 108,880
3. Cage Brothers, Uvalde, Tex ... 180,240

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Aggregate, base course	50,000 c. y.	$1.69	$2.25	$1.10
2. Asphalt	55,000 gal.	.12	.14	.12
3. Asphalt aggregate, 2-in. fluxed asph.	16,000 ton	6.00	6.00	6.70
4. Seal coat, fine; 2-in. fluxed asph.	1,400 ton	3.75	5.50	5.00
5. Seal coat, asph.; 2-in. fluxed asph.	37,000 gal.	.12	.14	.12

Schedule IV

LIST OF BIDDERS: (Engineer's estimate, $5,906)

1. Aaron U. Connor, Wink, Tex. (low bidder) ... $4,987
2. M. E. Souther, Inc., St. Paul, Minn ... 5,214
3. Nelson Electric Co., El Paso, Tex ... 7,356
4. Service Electric Co., Bismarck, N. D ... 9,700
5. Empire Electric Co., Fort Worth, Tex ... 13,453
6. Holland Page, Austin, Tex ... 14,805

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Furnish labor and mat'l (except for Govt. furnished mat'l.) for two 5 KVA engine generators, one automatic control switch, one G-3 cabinet, etc., complete with fittings	Lump Sum	$500.00	$250.00	$340.00
2. Install parkway cable	Lump Sum	....	....	....
3. Erect tower and beacon	Lump Sum	485.00	350.00	685.00
4. Install boundary lights	74 ea.	15.00	11.00	24.85
5. Install multiple cable	20,500 l. f.	.10	.15	.12
6. Install cable in trench	20,500 l. f.	.04	.03	.065
7. Concrete mix	10 c. y.	2.00	1.00	20.00
8. Rock excavation	100 c. y.	.20	1.00	5.00

Schedule V

LIST OF BIDDERS: (Engineer's estimate, $18,100)

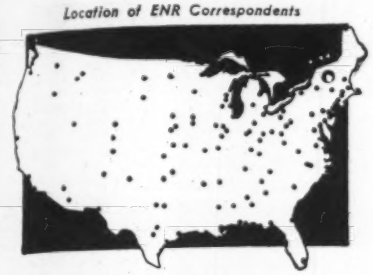
1. Cage Brothers, Uvalde, Tex. (low bidder) ... $9,725
2. C. Hunter Strain, San Angelo, Tex. ... 16,068
3. Holland Page, Austin, Tex ... 22,105

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Drill water well from 0 to 1,000-ft. depth	1,000 ft.	$2.25	$4.00	$4.55
2. Furn. and install 8-in. casing, 0 to 1,000 ft.	1,000 ft.	.85	2.25	2.50
3. Drill well, 1,000 to 1,500 ft.	500 ft.	2.50	5.00	5.55
4. Casing from 1,000 to 1,500 ft.	500 ft.	.95	2.50	3.00
5. Install water well pump	Lump Sum	2,500.00	4,750.00	5,980.00
6. Install power shed, complete with generator, etc.	Lump Sum	1,000.00	835.00	3,000.00
7. Install wood tower and tank	Lump Sum	1,400.00	483.00	2,000.00
8. (Alternate for Item 7). Job price for furnishing labor and mat'l., (other than Govt. furnished steel) for tower and wood tank, complete	Lump Sum	2,800.00	225.00	1,500.00

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, Manager *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

Location of ENR Correspondents



Symbols and Abbreviations Include

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily
A-E-M Architect — Engineer-Management type of contract.

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply — Unclassified
Sewers, Waste Disposal — Latin America
Bridges, Grade Cross'gs — Public Buildings
Streets & Roads — Commercial Buildings
Earthwork, Waterways — Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR):

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Note: To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

WATER SUPPLY

PROPOSED WORK

†Ind., Fort Wayne—Bd. P. Wks., R. G. Beams, chn., City Hall, revising plans, bids soon, watermain, Clay, Hanna and Wayne Sts., Ind. 12-104. $177,712. **FWA.** City Utilities Engineering Dpt., City Hall, engr.

†N. C., Wilmington—Federal Works Agency, 606 State Planters Bank Bldg., Richmond, Va., WW sys. addn., incl. 11,000 ft. 16 in. watermain. $86,000.

BIDS ASKED

Bids Asked December 15

†Conn., New Britain—City, P. Wks. Dpt., City Hall, watermain, Osgood and Warren St., Conn 6165. $20,000. **FWA.** G. Molleur, City Hall, engr.

Bids Asked December 17

B. C., Esquimalt—Secretary Dpt. Munitions & Supply, Ottawa, Ont., water distr. sys., at R. C. N. Barracks, for Dpt. National Defense (Navy), Ottawa, Ont.

Que., Lauzon—L. Bourassa, city clk., exten. filtration plant.

LOW BIDDERS

†Me., Portland—Federal Works Agency, 99 Chauncy St., Boston, Mass., Dec. 1, water supply pipelines, appurtenances, Contr. 4, Me. 17-134, from G. M. Byrne, 292 Washington St., Boston, Mass., **$348,510.** CD 11/24—ENR 11/19.

†Md., Hyattsville — Washington Suburban Sanitary Comn., Hamilton St., Dec. 2, Contr. 1, **FWA** Proj. Md. 18-175, 9,335 ft. 6- to 14-in. c.i. watermains, from W. G. Fritz Co., Inc., 69 Main St., West Orange, N. J., **$23,637.** CD 11/18—ENR 11/26.

Wash., Seattle—King Co. Water Dist. 63, c/o J. W. Carey, engr., Empire Bldg., Nov. 30, reconditioning 34,115 ft. 4 to 8-5/8-in asphalt dipped, lap weld steel pipe, fittings from Pacific Water Works Supply Co., 2909 1 Ave. S., **$21,682.** CD 11/23.

Que., St. Hyacinthe—5 m. g. low lift pump and motor, wash water pump plus motor, alum dry feed machine, etc., from Francis Hankin & Co., Ltd., 2028 Union Ave., Montreal, **$85,107.** CD 9/29—ENR 1018 under CA.

CONTRACTS AWARDED

★ **Calif., Los Angeles** — Metropolitan Water Dist. of Southern Calif., 306 W. 3 St., 12 mi. Orange County feeder exten., to American Pipe & Constr. Co., 4635 Firestone Blvd., **$798,033.** Est. over $500,000. CD 12/2 under LB.

†Florida—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, pump, stations, appurtenant structures, Palm Beach Co., to Cleary Bros. Constr. Co., Georgia Ave., West Palm Beach. **$100,000-$500,000.**

†Florida—U. S. Eng., U. S. Courthouse and Post Office, Jacksonville, water and sewerage sys., Inv.-Neg-Jax-43-371, Pinellas Co., to Cabel-Rosa Co., Jacksonville, under **$100,000.** Awarded 11/17.

†Florida—U. S. Eng., U. S. Courthouse and Post Office, expanding water and sewerage sys., Inv. Neg-BE-43-5, Hernando Co., to Hart Machinery Co., 2613 4 Ave., Tampa, under **$50,000.** Awarded 11/17.

†Georgia—U. S. Eng., Post Office Bldg., Savannah, water distr. and sanitary sewerage sys., Bulloch Co., to Fiske-Carter Constr. Co., Greenville, S. C., under **$50,000.**

†New Jersey—U. S. Eng., 120 Wall St., New York, N. Y., water and sewerage sys., Essex Co., to Malieu Constr. Co., 38 Wagarow Blvd., Prospect Park. Est. **$50,000.**

★ **†N. C., Wilmington**—City, King's Bluff Water Supply, Project WPW-N.C. 31-119, to Price Bros., 1932 E. Monument St., Dayton, O. Est. **$1,500,000.** Bids 11/4, CD 11/10—ENR 11/12 under LB; water facilities, NC 31-229, to Elliott Building Co., Hickory, **$63,940.** Bids 11/24. **FWA.**

†Okla., Tulsa—H. C. Veale, mayor, 36 ft. c.i. watermain, Contr. 2, Okla. 34-105, to Dobson & Robinson, 1825 1st Natl. Bank Bldg., Lincoln, Neb., **$349,970. FWA.** Bids 11/24. CD 11/12.

†Tennessee—U. S. Eng., P. O. Box 37, Memphis, water distr. sys., interior plumbing, sewage disposal and water distr. sys. for addnl. bldgs., Shelby Co., to F. Rhodes (Rhodes Plumbing Co.), 560 Madison St.,

SEWERS, WASTE DISPOSAL

PROPOSED WORK

†Conn., New Britain—City, Dpt. P. Wks., City Hall, bids late in December, sanitary sewers, Contr. 1, Conn. 6202, and reinforcing sewers in High St., and Commonwealth Ave. $35,000. CD 11/4—ENR 11/12. G. F. Molleur, City Hall, engr.

Kan., Wichita—P. L. Brockway, city engr., expanding sewage treatment plant. $245,000. Black & Veatch, 4706 Bway., Kansas City, Mo., Engrs. CD 10/28—ENR 11/5.

Mo., Knob Noster—State Bd. Health, Jefferson City, sewage facilities. $74,300. Applied for FWA funds.

N. J., Gladstone — United Seamans Club, Gladstone, sewage disposal plant. A. J. Offerer, 139 E. 53 St., New York, N. Y., engr.

†Tex., Orange—Federal Works Agency, Electric Bldg., Fort Worth, sewerage sys. imprvs. and addns., incl. lift station at Sholars and 9 Sts., and Front and 4 Sts., etc. $47,400.

†Pacific Northwest—U. S. Eng., 810 3 Ave., Seattle, Wash., sanitary outfall sewer, Inv. 265.

BIDS ASKED

Bids Asked December 14

†Conn., Bridgeport—City, Dpt. P. Wks., sanitary sewer, Broadbridge School, Conn. 6-107. $30,000. **FWA.** H. L. Rowland, City Hall, engr. CD 11/18—ENR 11/26.

†Md., Towson—Comrs. Baltimore Co., emergency sanitary facilities, Baltimore Co. $34,100. **FWA.**

Bids Asked December 22

†Conn., Stratford — Town, at office Town Manager, Town Hall, Contr. 1, intercepting sewer, pump. sta., force main, appurtenances, and Contr. 2, outfall sewer, **FWA** Proj. Conn. 6-129. Plans deposit $25. T. F. Rowe, 110 William St., New York, N. Y., consult. engr. CD 11/5—ENR 11/12.

Bids Asked

†Me., South Portland—Federal Works Agency, 99 Chauncy St., Boston, Mass. (selected list bidders), 1,300 ft. 15 and 20 in. sewers, appurtenances, Me. 17-146. $15,000.

LOW BIDDERS

Calif., Lancaster—Polaris Flight Academy, 1224 Air Way, Glendale, Nov. 27, sewage treatment plant, from C. G. and E. F. Wopschall, 35 N. Arroyo Parkway Blvd., Pasadena, approx. **$33,000.** J. M. Montgomery & Co., 306 W. 3 St., Los Angeles, engrs.

†Connecticut — Bridgeport Housing Auth., 252 Hallett St., Bridgeport, Nov. 24, drainage sys. for housing, Project Conn. 6052, for NHA, from City Constr. Co., Inc., 355 Main St., Bridgeport, **$39,300.** CD 11/18.

†New Hampshire — Pub. Housing Auth., NHA, 24 School St., Boston, Mass., Nov. 27, drainage, grading, for housing, Project NH 27012 and NH 27013, from Landers and Griffin, Inc., 185 High St., Portsmouth, **$55,700.** CD 11/20.

†Wash., Vancouver—Federal Works Agency, Alaska Bldg., Seattle, Dec. 2, intercepting sewerage sys., laterals, from Abraham Constr. Co., 3918 S.E. 59 St., Portland, Ore., **$217,432. FWA.** CD 11/24—ENR 8/29.

CONTRACTS AWARDED

†California—U. S. Eng., 74 New Montgomery St., San Francisco, sewage plant addns., Monterey Co., to F. J. Early, Jr., 369 Pine St., San Francisco. Awarded 11/30.

†California—U. S. Eng., 74 New Montgomery St., San Francisco, sewage plant addn., Monterey Co., to Harold C. Geyer, 737 Munras Ave., Monterey. Awarded 12/4.

†Delaware—U. S. Eng., 6 and Walnut Sts., Phila., Pa., sewage treatment plant, Kent Co., to J. A. Bader & Co. Inc., 923 Market St., Wilmington, under **$50,000.**

†Ga., Columbus—Bd. Comrs. Muscogee Co. and Federal Works Agency, Candler Bldg., Atlanta, sewage collection sys., to W. C. Shepherd Co., Briarcliff Rd. N.E., Atlanta, **$146,899. FWA.** Robert & Co., Bona Allen Bldg., Atlanta, engrs.

Mass., Worcester—Dpt. Sewers, 20 E. Worcester St., exten. sanitary sewers, Huntington Ave., Goldthwaite and Appollo Rds., own forces, **$38,000.**

†Michigan—Pub. Housing Auth., NHA, Barlum Tower, Detroit, drainage and water sys. for trailer housing, to O. W. Burke Co., 1101 Fisher Bldg., Detroit. Est. exceeds **$25,000.** Harley & Ellington, and C. E. Day, 1507 Stroh Bldg., Detroit, engrs and archts.

★ **†Michigan**—U. S. Eng., 700 Union Guardian Bldg., Detroit, sanitary sewers, sewage treatment plant, water supply lines, distr. sys. and water reservoir and pumphouse, Saginaw Co., to United Constr. Co., 406 Houseman Bldg., Grand Rapids, less than **$1,000,000.**

★ **†Michigan**—U. S. Eng., 700 Union Guardian Bldg., Detroit, sewage disposal plant addn., Wayne Co., to R. E. Dailey, 4500 Oakman St., Detroit, less than **$1,000,000.**

N. J., Bloomfield—Mayor and Town Council, depression Supplementary Union Outlet Sewer, beneath Second River near Mill St., Belleville, and Walnut St., Bloomfield, to J. R. and M. C. Fusco, Inc., 29 Glen Ridge Ave., Montclair, **$31,773.** Bids 19/22. CD 10/22—ENR 10/29.

BRIDGES, GRADE CROSSINGS

PROPOSED WORK

Conn., Hamden (br. New Haven)—Town, Bd. Selectmen, Town Hall, reconstructing, widening railroad underpasses Putnam Ave., West Wood Rd., Sanford and Skiff Sts. Over $25,000.

†Texas and Mexico—United States Government, Wash., D. C., and Mexican Federal Government, Mexico City, Mexico, permanent type international bridge across Rio Grande River between Laredo, Tex. and Nuevo Laredo, Mexico. $250,000.

LOW BIDDERS

Bids Asked December 16

Calif., San Francisco — Dpt. P. Wks., City Hall, repairing 3 St. Bridge over Channel St.

BRIDGES, etc. (Bids Asked, Cont'd.)

Waterway, Contr. 7, Spec. 19,715. Bids Nov. 18, rejected. CD 11/23—ENR 11/26 under LB.

Bids Asked December 18

Calif., Long Beach — Bd. Harbor Comrs., 600 ft. treated timber bridge over Flood Control Channel, Ocean Blvd., for City Harbor Dpt., 1333 El Embarcadero St., Long Beach, and Los Angeles Co. (Los Angeles). $85,000. Plans deposit $20. R. R. Shoemaker, 1333 El Embarcadero St., engr. CD 10/14—ENR 10/29.

Bids Asked December 21

Pennsylvania—At office I. Lamont Hughes, secy. Hys., Harrisburg, repairing pier fdns., to Hickory St. Bridge, Warren Borough, Warren Co.

Bids Asked December 28

New Jersey—S. Miller, Jr., comr. State Hy. Dpt., Trenton, substructure bridge over tracks New York & Long Branch R.R., Route 35, Sect. 38, Borough Sayreville, Middlesex Co. Plans deposit $10. A. L. Graves, ch. clk.; adv. ENR 12/10.

LOW BIDDERS

†**Kansas**—Pub. Housing Auth., NHA, Dierks Bldg., Kansas City, Mo., Nov. 30, bridges, culverts, telephone stations and coal bins, Items 1 and 2, from Great Western Constr. Co., Omaha, Neb., **$149,749;** Items 3 and 4, from Jack Constr. Co., Security Bank Bldg., Kansas City, Mo. CD 11/16.

CONTRACTS AWARDED

Conn., New Haven—City, Eng. Dpt., Hall of Records, repairing bridge over West River, Edgewood Ave., to The Penetryn System, 444 Bway., Albany, N. Y., **$26,000.**

Indiana—State Hy. Comn., Indianapolis, bridge over Von Fange Ditch also 0.849 mi. road, Jackson Co., to D. M. Vaughan, 619 S. 10 St., Lafayette, **$75,494.** Est. $77,357. Bids 11/24, awarded 12/2.

Tex., Houston—Comrs. Harris Co., c/o Judge, Houston, driving piling, capping and constructing substructure for vehicular bridge on Treaschwig Rd., to W. E. Worthen, 6711 Avenue A, **$27,745.** CD 10/28—ENR 11/5.

STREETS AND ROADS

PROPOSED WORK

Bids Asked December 15

†**Kansas**—U. S. Eng., Albuquerque, N. M., grading, concrete and asphalt paving, Ford Co. Plans deposit $100.

New York—President Brooklyn Boro, Boro Hall, Brooklyn, constructing Brooklyn-Queens Connecting Hy., U. S. Navy Yard Sect., Contr. A, service roads, etc.

Bids Asked December 16

Louisiana—State Dpt. Hys., W. Prescott Foster, dir., Baton Rouge, furnishing, hauling, spot dumping 5,000 cu.yd. iron ore or 961 cu.yd. washed gravel, S.P. 901-01-20, Jackson Parish; 7,000 cu.yd. pit run gravel S.P. 901-01-49, Catahoula Parish; 3,400 cu.yd. washed gravel or as alternates, 3,999 cu.yd. sand clay gravel or 3359 cu.yd. washed sand gravel, S.P. 901-01-50 and 901-01-51, Ascension Parish; 3,966 cu.yd. washed gravel or as alternates 4667 cu.yd. sand clay gravel or 3917 cu.yd., washed sand clay, S.P. 901-01-52, St. Landry Parish.

Bids Asked December 18

North Dakota—State Hy. Dpt., Bismarck, imprv. 7.48 mi. also structural road imprv. S.N.—FAP 672(2), both Grand Forks Co. CD 12/2.

★**Oregon**—State Hy. Comn., Portland, 12,000 cu.yd. crushed rock or crushed gravel in stock piles on Rock Creek-Joseph Rock Production on Wallawa Hy., Wallawa Co.; 14,400 cu.yd. on Lane-Trent-Salt Creek Falls Rock Production on Willamette Hy., Lane Co.; 8,000 cu.yd. crushed rock in stock piles on Richland Halfway Rock Production Project on Baker-Homestead and Halfway Hys., Baker Co.; 7,000 cu.yd. on Buchanan Rock Production Project on Central Oregon Hy., Harney Co.; 8,000 cu. yd. Crescent Rock Production Project Dalles-California Hy., Klamath Co.; 11,500 cu.yd. in Chemult Rock Production Project on Dalles-California and Willamette Hys., Klamath Co.; 72,000 cu.yd. excav., 49,000 cu.yd. pit run gravel, 16,000 cu.yd. crushed gravel flight strip project, Morrow Co., grading, crushed rock or gravel surfacing, 18,000 cu.yd. Jackson-Evans Creek Valley Rd., Jackson Co.; 2.65 mi. grading, surfacing, oiling, 57 ft. timber trestle Jackson Co. Total est. $700,000. R. H. Baldock, State House, Salem, engr. CD.

Tennessee—State Hy. Dpt., Nashville, grading, draining, paving 5.255 mi. State Route 2-A and Hickory Valley Rd., Hamilton Co.; 0.218 mi. South Trezevant St., in Memphis; 1.116 mi. Democrat Rd., both Shelby Co.

Bids Asked December 21

Pennsylvania—At office I. Lamont Hughes, secy. Hys., Harrisburg, grading, draining, 2 plate girder bridges (structural steel furnished by State Hy. Dpt.) 2,477 ft. Legislative Route R-63021 Sect. 1 and Legislative Route R-63068 Sect. 1, Cherry Ridge Twp.; native stone, Type B, or crushed aggregate base course with bituminous surface course, plate bridge (steel furnished by Dept.) 475 ft. Legislative Route R-63049, Spur E, Sect. 1, Buckingham and Manchester Twps.; native stone, Type B, or crushed aggregate base, bituminous surface course also two plate girder bridges (steel furnished by Dpt.) on 4,255 ft. Legislative Route R-943, Sect. 1, Legislative Route R-63022, Sect. 1, Palmyra and Paupeck Twps., all Wayne Co.

Bids Asked December 22

Oklahoma—State Hy. Dpt., V. T. Moon, engr., Oklahoma City, grading, draining, asphalt surfacing 8 mi. State Hy. 9, Pottawatomie Co. $115,000.

Washington—B. Bantz, dir. State Hy. Dpt., Olympia, clearing, grading, draining, paving 3.105 mi. State Rd. 1 and Wycoff Ave., Bremerton, Kitsap Co.; 1.148 mi. Clark Co. Plans deposit $2.

Bids Asked December 24

†**Ill., Chicago**—Office District Engineer, Public Bldgs., Admin., 377 U. S. Court House, repairing East River Dr. Steel superstructure, at Post Office, Van Buren, Harrison and S. Canal Sts., Spec. PB-DE-5. **FWA.**

Bids Asked

Connecticut—State Hy. Dpt., W. J. Cox, comr., Hartford, rejected bids Oct. 19, imprv. 4,585 ft. road, Canton. CD 10/22—ENR 10/29 under LB.

LOW BIDDERS

†**California**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Nov. 28, grading, paving, constructing utilities, No. 978, Los Angeles Co., from R. A. Wattson Co., 1026 N. McCadden Pl., Los Angeles, less than **$100,000.**

Ill., Chicago—Dpt. P. Wks., imprv., South Austin Ave., from James P. O'Keefe Co., 806 W. 77 Sts., **$38,713.** Bids 11/30.

★**Louisiana**—Dpt. Hys., Baton Rouge, Dec. 2, imprv. 12.521 mi. Rapides Parish, and 6.207 mi. Bossier and Webster Parishes, from W. R. Aldrich & Co., Kalwrah Univ. Gardens, Baton Rouge, **$847,922** and **$426,645** respectively. CD 11/23—ENR 11/26.

★**Ohio**—State Hy. Dpt., Columbus, Nov. 24, from A. J. Baltes, 11 Olive St., Norwalk, imprv. 5.181 mi. Lorain and Medina Counties **$555,847,** est. $558,000; 1.079 mi. Lorain Co. **$230,966,** est. $231,000. CD 11/17—ENR 11/19.

†**South Carolina**—U. S. Eng., 33 Customhouse, Charleston, Nov. 27, paving, Charleston Co., from R. B. Tyler Co., 1446 Levering St., Louisville, Ky.

†**Virginia**—Office of H. J. Spelman, dist. engr. Pub. Rds. Admin., 1440 Columbia Pike, Arlington, Nov. 30, Project DA WR-8, Grading 13, War Department Building-Road Network, Arlington Co., from Virginia Paving Co., Arlington, **$199,113. FWA.** CD 11/18.

CONTRACTS AWARDED

†**Alabama**—U. S. Eng., U. S. Courthouse & Customhouse, Mobile, grading, paving, drainage, Marengo Co., Inv. 569-43-347, to Southeastern Constr. Co., Ozark. Est. **$250,000.** CAA.

†**Arkansas**—U. S. Eng., P. O. Box 97, Memphis, Tenn., roads, walks, drainage, Inv. 1092-43-115F, Lawrence Co., to J. M. Cartwright, Cartwright Constr. Co., Walnut Ridge, under **$50,000.** Bids 11/4. CD 10/30.

★†**Fla., Ft. Lauderdale** — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., constructing limerock base course, NOY 5681, to R. H. Wright & Son, 1st Natl. Bank Bldg., Columbus, Ga., **$804,200.** CD 6/1.

†**Florida**—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, grading, paving, etc., Charlotte Co., to B. B. McCormick & Sons, Inc., Graham Bldg., Jacksonville.

†**Florida**—U. S. Eng., U. S. Courthouse & Customhouse, Mobile, roads, Escambia Co., to Smith Eng. & Constr. Co., West Pensacola, and Noonan Constr. Co., 1001 E. Gregory St., Pensacola, **$100,000-$500,000.**

†**New Mexico** — U. S. Eng., Albuquerque, roads, Otero Co., to W. J. Culbertson, P. O. Box 1221, Albuquerque, **$50,000-$100,000.**

†**North Carolina**—U. S. Eng., 308 Customhouse, Wilmington, grading, drainage, paving, Richmond Co., to Ballenger Paving Co., Greenville, S. C., and W. C. Shepherd, 2840 Briarcliff Rd., Atlanta, Ga. Bids 11/27. Metcalf & Eddy, 1300 Statler Bldg., Boston, Mass., engrs.

★**Ohio**—State Hy. Dpt., Columbus, imprv. 7.933 mi. Huron Co., to A. J. Baltes, 11 Olive St., Norwalk, **$644,994,** est. $653,600*** 4.305 mi. Jackson Co., to Frowine Const. Co., 821 Prospect St., Portsmouth, **$59,695,** est. $62,200***1.252 mi. Lorain Co., to Dandrea, Nardini & Falbo, 218 Connecticut Ave., Lorain, **$100,396,** est. $113,300. Grand total $904,085. Bids 11/24. CD 11/17—ENR 11/19.

†**Rhode Island**—U. S. Eng., 819 Industrial Trust Bldg., Providence, roads, imprvs., Washington Co., to Narragansett Improvement Co., 104 Public St., Providence. Est. under **$50,000.**

†**Texas**—U. S. Eng., Albuquerque, N. M., roads, El Paso Co., to W. J. Culbertson, Albuquerque, N. M., **$100,000-$500,000.**

†**Texas**—U. S. Eng., Fort Sam Houston, addnl. paving, roads, concrete sidewalks, No. 42-584, Bexar Co., to Colglazier & Hoff, 3[illegible] Seguin St., San Antonio, $[illegible]-$500,000.

†**Texas**—U. S. Eng., 231 W. [illegible] son, grading, Grayson Co., to [illegible] Construction Bldg., Dallas, $50[illegible]-$100,000.

†**Texas**—U. S. Eng., Fort [illegible] drives, bldg., Bexar Co., to [illegible] worth, Rte. 5, P. O. Box 158[illegible] under **$50,000.**

†**Texas**—U. S. Eng., Fort [illegible] addnl. contract roads, walks [illegible] Bexar Co., to Colglazier & H[illegible] Rd., San Antonio, under $50,0[illegible] to CD 11/6—ENR 11/12 under [illegible]

EARTHWORK, WATERWAYS

PROPOSED WORK

La., Plaquemine—Kansas City Bridge Co. BMA Bldg., Kansas City, Mo. [illegible]x180 ft. timber boatways, 4 spaced on [illegible] ft. centers, 4 on 24 ft. centers, near [illegible] Iberville Parish.

LOW BIDDERS

†**California** — Bureau Reclamation, Custom House, Denver, Colo., Dec. 1, structural steel for spillway bridge at Shasta Dam, Kennett Div., Central Valley Project, f.o.b. cars, Coram Spec. 1051, from Mississippi Valley Structural Steel Co., 3117 Big Bend Rd., St. Louis, Mo. **$57,500.** CD 11/10—ENR 11/12.

New Jersey—Bd. Commerce & Navigation, 1060 Broad St., Newark, Nov. 30, repairing stone, steel core wall Jetty B, stone placement Park Pl., Bradley Beach, Monmouth Co., from Thomas Proctor Co., Inc., 218 N. 5 Ave., Long Branch, **$52,650.** CD 11/19—ENR 11/26.

Tex., Houston—R. J. Putney, Jr., Courthouse engr., excavating for drainage ditch (dragline) from V. R. Allsup, 236 Brace St. Est. $40,000. CD 11/20—ENR 11/26.

CONTRACTS AWARDED

New Jersey—State, Bd. Commerce & Navigation, 1060 Broad St., Newark, stone jetty, Project 181, Cape May Co., to Thos Proctor Co., Inc., 218 N. 5 Ave., Long Branch, **$36,150;** Project 178, Cape May Co. and repairing, exten. stone jetty, Project 185, Monmouth Co., to Jesse A. Howland & Sons, Inc., 50 Church St., Sea Bright, **$56,795** and **$37,757** respectively. Grand total $130,702. Bids 11/7. CD 10/29.

†**South Carolina**—U. S. Eng., 33 Customhouse, Charleston, dredging, Charleston Co., to Shell Producers Co., 115 S. Water St., Tampa, Fla. Bids 12/2.

†**Utah**—U. S. Eng., 32 Exchange Pl., Salt Lake City, gravel fill, Tooele Co., to V. and W. P. Newman, 320 Whitney Ave., Salt Lake City, under **$200,000.** Bids 11/16.

Wash., Tacoma—City, Bd. Contrs. & Awards, City Hall, steel plates for penstocks and tunnel, second Nisqually power development, to Columbia Steel Co., 1954/4 Ave. S., Seattle. **$82,600.** Bids 11/16.

UNCLASSIFIED

PROPOSED WORK

†**Ark., Little Rock**—IMPROVEMENTS—Civil Aeronautics Admin., S. E. Travis, Jr., Reg. Airport engr., Box 1689, Fort Worth, Tex., imprvs.

†**California**—IMPROVEMENTS, etc.—U. S. Eng., 1209 8 St., Sacramento, imprvs., bldgs. Spec. 305, Butte Co.

†**Colorado**—IMPROVEMENTS—U. S. Eng., c/o Postmaster, Denver, imprvs. Huerfano Co. Under $500,000.

★†**Idaho, Mountain Home** — IMPROVEMENTS—U. S. Eng., Pittock Blk., Portland, Ore., imprvs. Over $5,000,000. CD 11/23—ENR 12/3.

★†**Kansas**—IMPROVEMENTS—U. S. Eng., Albuquerque, N. M., imprvs., Seward Co. $3,000,000. Wilson & Co., Salina, engrs. CD 12/1—ENR 12/3.

★†**Kan., Hutchinson** — IMPROVEMENTS—Civil Aeronautics Admin., City Hall, Kansas City, Mo., imprvs. $600,000.

★†**Texas**—IMPROVEMENTS—U. S. Eng., 231 W. Main St., Denison, imprvs., bldgs., facilities, etc., Gregg Co. $5,000,000.

★†**Texas** — IMPROVEMENTS — U. S. Eng., Fort Sam Houston, imprvs., Bell Co. $750,000.

★†**Tex., Tyler** — IMPROVEMENTS — U. S. Eng., 231 W. Main St., Denison, imprvs. $5,000,000.

★†**Washington** — IMPROVEMENTS — Seattle-Tacoma Shipbuilding Corp., 2400 11 St. S.W., Seattle, imprvs., bldgs. $2,000,000. Federally financed.

BIDS ASKED

Bids Asked December 14

Nova Scotia—BULK GASOLINE STORAGE—Secretary Dpt. Munitions & Supply, Ottawa, Ont., bulk gasoline storage at R.C.A.F. Station, for Dpt. National Defense for Air, Ottawa, Ont. $35,000.

UNCLASSIFIED (Bids Asked, Cont'd.)

Bids Asked About December 18

†Okla., **Okmulgee**—IMPROVEMENTS—Dpt. Commerce, Civil Aeronautics Admin., Box 1689, Fort Worth, Tex., imprvs., fencing, clearing, conditioning, drainage, seeding, open ditch. Over $25,000. Plans deposit $50.

Bids Asked

†**Connecticut** — IMPROVEMENTS — U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I. (selected list bidders), imprvs., New London Co.

†**Connecticut** — IMPROVEMENTS — U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I. (selected list bidders), imprvs., No. 699-43-124, Fairfield Co.

†**Connecticut** — IMPROVEMENTS — U. S. Eng., 819 Industrial Trust Bldg., Providence, R. I. (selected list bidders), imprvs., Inv. 699-43-121, Fairfield Co.

†**Kansas** — IMPROVEMENTS — U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., imprvs., brick rein.-con. pumphouse, Wyandotte Co. $100,000.

†**Missouri** — IMPROVEMENTS — U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., imprvs., bldgs., Buchanan Co. $600,000. Burns & McDonnell, 107 W. Linwood Blvd., Kansas City, Mo., engrs. CD 11/5—ENR 11/12.

★†**Pennsylvania** — TUNNEL — Pennsylvania R.R., W. D. Wiggins, ch. engr., Broad St. Sta., Phila. (by invitation only), imprv. Tunnel 4, 1,000,000 cu. yd. grading, 21 mi. west of Burgettstown. $500,000.

†**Rhode Island** — IMPROVEMENTS — U. S. Eng., 819 Industrial Trust Bldg., Providence (selected list bidders), imprvs., No. 43-123, Kent Co.

LOW BIDDERS

†**California**—IMPROVEMENTS—U. S. Eng., 751 S. Figueroa St., Los Angeles, Nov. 25, imprvs., paving, No. 950, Inyo Co., from Basich Bros., 20530 S. Normandie Ave., Torrance, less than **$100,000.**

Ill., **Chicago** — PEDESTRIAN PASSAGEWAYS, etc.—City, at office P. Harrington, comr. Subways & Superhighways, 20 N. Wacker Dr., Nov. 27, finish of pedestrian passageways and access mezzanines. Contr. F-5A, from C. E. Carson Co., 601 N. St. Clair St., **$87,748.** CD 11/18.

★†**Missouri**—IMPROVEMENTS—Civil Aeronautics Admin., City Hall, Kansas City, Mo., Nov. 30, imprv., grading, etc., Proposal 543-P-80, from Koss Constr. Co., 205 Old Colony Bldg., Des Moines, Ia., **$1,471,336.** CD 11/20.

†**Nevada** — IMPROVEMENTS — U. S. Eng., 4792 Sepulveda Ave., San Bernardino, Calif., Nov. 27, imprvs., Solic. 93C, from Myers Bros., 3407 San Fernando Rd., Los Angeles, Calif., under **$50,000;** water supply sys. addn., Solic. 964, from F. Ziebarth, 820 W. Esther St., Long Beach, Calif., under **$50,000,** both in Clark Co. CD 11/23.

†**New Mexico** — ELECTRICAL DISTRIBUTION SYSTEM, etc.—U. S. Eng., Albuquerque, Nov. 14, outside electrical distr. sys., for bldg. area, streets, roads, area grading, roads and streets, underground utilities, etc., De Baca Co., from Maxey & Leftwich, P. O. Box 108, Lubbock, Tex., **$100,000-$500,000.** CD 11/10.

†**North Carolina**—PAINTING—U. S. Eng., Maxton, Nov. 30, painting, Robeson Co., from G. F. Brown & Co. Inc., Johnston Bldg., Charlotte.

†**South Carolina**—PAINTING—U. S. Eng., Florence, Nov. 30, painting bldgs., Florence Co., from Georgia Paint & Roofing Co., Inc., Rome.

†**South Carolina**—PLUMBING—U. S. Eng., 33 Customhouse, Charleston, Nov. 28, plumbing installation, Charleston Co., from W. I. Chapman, Charleston.

†**South Carolina**—RAILROAD TURNTABLE—U. S. Eng., 33 Customhouse, Charleston, Nov. 30, railroad turntable, Charleston Co., from C. Y. Thomason Co., Greenwood.

†**Texas**—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., Tom Green Co., from Ross Constr. Co., Brownwood, **$50,000-$100,000.** CD 11/13—ENR 11/19.

†**Texas** — SITE IMPROVEMENTS — Pub. Housing Auth., NHA, Electric Bldg., Fort Worth, site imprvs., Tex. 41136, from J. G. Holland, 2739 Centenary St., Houston, **$82,000.** Hedrick & Lindsley, Inc., 711 Main St., Houston, archts.

†**Texas**—IMPROVEMENTS—U. S. Eng., 231 W. Main St., Denison, imprvs., Childress Co., from P. B. Odom, 3621 N.W. 10 St., Oklahoma City, Okla., **$50,000-$100,000.** CD 11/4—ENR 11/12.

CONTRACTS AWARDED

†**Alabama**—GASOLINE FUELING SYSTEM—U. S. Eng., U. S. Courthouse & Customhouse, Mobile, gasoline fueling sys., Montgomery Co., to Gulf City Constr. Co., Mobile, under **$50,000.**

†**Alabama**—IMPROVEMENTS—U. S. Eng., U. S. Courthouse & Customhouse, Mobile, imprvs., Dallas Co., to Cooper Bros., Selma. Bids 11/28.

†**Arkansas**—IMPROVEMENTS—U. S. Eng., P. O. Box 97, Memphis, Tenn., imprvs., roadway fencing, underground power and incidental work, Inv. 1092-43-L33 F, Lawrence Co., and imprvs., Inv. 1092-43-130F, Mississippi and Lawrence Counties, to Dykes-Powers-Manley, Laager, Tenn., both under **$50,000.**

†**California**—ENCASING PILES—U. S. Eng., 74 New Montgomery St., San Francisco, encasing timber piles, Solano Co., to Cement Gun Constr. Co. of Calif., 24 California St., San Francisco. Awarded 11/30.

†**California**—FIRE REPORTING SYSTEM—U. S. Eng. 74 New Montgomery St., San Francisco, manual fire reporting sys., San Francisco Co., to American District Telegraph Co. of San Francisco, 150 Post St., San Francisco. Awarded 12/1.

†**California** — GASOLINE FUELING SYSTEM, etc.—U. S. Eng., 1209 8 St., Sacramento, gasoline fueling sys., appurtenant facilities, Kern Co., to H. B. Nicholson, 1151 S. Bway., and N. P. Van Valkenburgh, 1156 S. Victoria Ave., Los Angeles, under **$50,000.**

†**California**—IMPROVEMENTS—U. S. Eng., Wright Bldg., Sacramento, imprvs., Butte Co., to Yuba Sutter Oil & Burner Co., 420 3rd St., Marysville, under **$50,000.**

†**California**—IMPROVEMENTS—U. S. Eng., 1209 8 St., Sacramento, imprvs., Spec. 287, Kern Co., to G. E. Hall, 1326 30 St., Bakersfield, under **$100,000*****San Joaquin Co., to Giles & Merlo, 121 W. Knoles Way, Stockton, under **$50,000** *** Kings Co., to Trewhitt, Shields & Fisher, Pacific Southwest Bldg., Fresno, under **$50,000*****Merced Co., to A. R. Liner, P. O. Box 43, Merced, under **$50,000***** Sacramento Co., to H. W. Robertson, 3004 F St., Sacramento, under **$50,000.** CD 12/3.

†**California**—IMPROVEMENTS—U. S. Eng., 1209 8 St., Sacramento, imprvs., Tulare Co., to Piazza & Huntley, 195 N. 6 St., San Jose, **$50,000-$100,000.**

★†**California** — IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., Supplemental Agreement 3, imprvs., NOY 4279, to Guy F. Atkinson Co., 662 Russ Bldg., San Francisco, and George Pollock, Box 903, Sacramento, **$14,-131,008.** CD 4/1—ENR 4/9, under CA.

†**California**—UTILITY PIPING—Industrial Company, utility piping imprvs., to MacDonald & Kahn, Inc., 200 Financial Center Bldg., San Francisco. Federally financed.

†**California**—UTILITY TRENCHES—Industrial Company, utility trenches, Alameda Co., to Chas. Stockholm & Sons, 447 Sutter St., San Francisco. Federally financed.

†**Colorado** — ELECTRIC DISTRIBUTION SYSTEM—U. S. Eng., Albuquerque, N. M., electrical distr. sys. Las Animas Co., to J. M. Callaghan, 1100 E. Missouri St., El Paso, Tex. Est. under **$50,000.**

†**Connecticut** — SITE IMPROVEMENTS — Pub. Housing Auth., NHA, 24 School St., Boston, Mass., site imprvs., water, sewer utilities and overhead electric distr. sys., Conn. 6135, to E. B. McGurk, Inc., 355 Barbour St., Hartford, **$45,975.** Bids 11/27. CD 11/24.

★†**Florida**—CLEARING, etc.—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, clearing, grubbing, grading, draining, paving, installing underground ducts, Inv. NEG-436-43-1, St. Lucie Co., to Middle West Roads Co., 445 Illinois Bldg., Indianapolis, Ind., under **$3,000,000.** Awarded 11/12.

†**Florida**—FENCES—U. S. Eng., U. S. Courthouse and Post Office, Jacksonville, fences, Inv. NEG-C.C.-43-3 Dixie Co., to C. K. McCaskill, Jr., Gainesville, under **$50,000.** Awarded 11/8.

†**Florida**—IMPROVEMENTS—U. S. Eng., U. S. Courthouse and Post Office, Jacksonville, imprvs., Inv. Neg-H.H.-43-6, Hillsborough Co., to Cone Bros. Constr. Co., Caesar Ave. and Cumberland Rd., Tampa, under **$100,000.** Awarded 11/19.

†**Florida**—IMPROVEMENTS—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, Imprvs. Inv. NEG-F.M.-43-13, Lee Co., to Paul Smith Constr. Co., 320 Rome Ave., Tampa, under **$500,000.** Awarded 11/19.

★†**Florida** — IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., Supplementary Agreement 1, imprvs., NOY 5460, to Ivy H. Smith Co., S. S. Jacobs Co., Langston Constr. Co., and Hubbard Constr. Co., 1525 San Marco Blvd., South Jacksonville, **$3,235,000.**

†**Florida** — SPRINKLER SYSTEM — U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, sprinkler sys. Inv. Neg-Jax-43-363, Hillsborough Co., to Moore Pipe & Sprinkler Co., 1130 W. State St., Jacksonville, under **$50,000.**

†**Florida**—VEHICLE REPAIR SHED—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, vehicle repair shed, Duval Co., to O. P. Woodcock Co., Duval Bldg., Jacksonville, under **$50,000.**

★†**Fla., Panama City**—IMPROVEMENTS—Yards & Docks, Navy Dpt., 13 St. and Constitution Ave. N.W., Wash., D. C., imprvs., NOY 5867, to Hillyer & Lovan, 111 W. Ashley St., Jacksonville, **$775,000.** Awarded 11/12.

†**Georgia**—GRASSING ROAD SHOULDERS—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, Fla., grassing road shoulders, Inv. Neg-T.E.-43-5, Thomas Co., to Scott Constr. Co., Thomasville, under **$50,000.** Awarded 11/18.

†**Georgia**—IMPROVEMENTS—U. S. Eng., Marietta, imprvs., Cobb Co., to Ballenger Paving Co., Greenville, S. C., MacDougald Constr. Co., Northside Dr. N.W., Atlanta, Ga., and Chalker & Lund, Marietta. Rovert & Co., Bona Allen Bldg., Atlanta, engrs. Bids 11/24.

†**Georgia** — IMPROVEMENTS — U. S. Eng., Post Office Bldg., Savannah, imprvs., Dougherty Co., to Newman Const. Co., LaGrange.

★†**Illinois, Indiana, Ohio, New Jersey** and **Pennsylvania**—PIPELINE—War Emergencies Pipeline, Inc., R. E. Hull, vice pres., Little Rock, Ark. (Cities Service Oil Co., Atlanta Refining Co., Consolidated Oil Corp., Sun Oil Co., Socony-Vacuum, Inc., Tidewater Associated Oil Co., Texas Co., Gulf Refining Co., Shell Oil Co., Pan American Petroleum & Transport Co. and Standard Oil Co. of N. J.), 857 mi. 24 in. pipeline from Norris City, Ill., to Phoenixville, Pa., to Sheehan Constr. Co., Natl. Bank of Tulsa Bldg., Tulsa, Okla., R. Smith, El Dorado, Kan., Anderson Bros., Tulsa, Okla., C. S. Foreman, N. Y. Life Bldg., Kansas City, Mo., Bechtel & Dempsey, 155 Sansome St., San Francisco, Calif., and Kennedy Bldg., Tulsa, Okla., Williams Bros., Natl. Bank of Tulsa Bldg., Tulsa, Okla., C. C. Whitaker Co., Dan Waggoner Bldg., Fort Worth, Tex., L. C. Little, Gulf States Bldg., Dallas, Tex., Oklahoma Contg. Co., Magnolia Bldg., Dallas, Tex.***92 mi., 20 in. branch line from Phoenixville Junction, Pa., to Bayway, Bayonne, N. J., Midwestern Eng. & Constr. Co., Drew Bldg., Tulsa, Okla., Jones & Brooks, Insurance Bldg., Oklahoma City, Okla.***42 mi. 20 in. branch line from Pheonixville Junction, Pa. to Philadelphia, Pa., and Exeter Constr. Co., Camp Hill, Pa., **$60,000,000.** (**Correction**—additional contractors). CD 11/4—ENR 11/12, under CA.

†**Illinois** — FIRE ALARM SYSTEM — U. S. Eng., 800 U. S. Court House & Custom House, St. Louis, Mo., installing automatic and/or manual fire alarm sys., Neg. 1103-43-99, St. Clair Co., to American District Telegraph Co., 910 Chestnut St., St. Louis, Mo. Bids 11/27.

†**Illinois**—PLUMBING, etc.—U. S. Eng., 520 Merchandise Mart, Chicago, plumbing and drainage, Cook Co., to M. J. Corboy Co., 405 S. Desplaines St., Chicago, **$100,000-$500,000.**

†**Kansas**—FIRE ALARM SYSTEMS—U. S. Eng., Albuquerque, N. M., fire alarm sys., Finney and Ford Counties, to American District Telegraph Co., New England Bldg., Topeka. Est. under **$50,000.**

†**Louisiana**—IMPROVEMENTS—U. S. Eng., U. S. Post Office & Courthouse, Vicksburg, Miss., imprvs., Ouachita Parish, to W. C. Salley, Monroe, under **$50,000.** Awarded 11/27.

La., Shreveport—OIL WELLS—Triangle Drilling Co., Inc., Ardis Bldg., Shreveport, drilling, developing deep test oil wells, Sec. 19-17n-16 w, near here, force account. Over **$25,000.**

†**Maine** — IMPROVEMENTS — Industrial Company, plant addn., to Brown Constr. Co., 562 Congress St., Portland***piping, to P. A. Dolan Co., 237 Bway., Boston, Mass.***bldg., to H. P. Cummings Constr. Co., Winthrop*** electrical work for bldg., to Kerr Electric Co., Inc., 83 Main St., Auburn. **$13,200.** Federally financed.

†**Maine**—STEEL FRAMES—U. S. Eng., Park Square Bldg., Boston, steel frames, to Spinelli & Sons Co., Inc., 38 Chauncy St., Boston. Est. under **$50,000.** CD 11/5—ENR 11/12.

★†**Michigan**—COMPASS SWINGING BASE, etc.—U. S. Eng., 709 Union Guardian Bldg., Detroit, compass swinging base, and wood igloos and gravel roads, barricades, Washtenaw Co., to J. A. Utley, 723 E. 10 Mile Rd., Detroit, less than **$2,000,000.**

★†**Michigan**—IMPROVEMENTS—U. S. Eng., 709 Union Guardian Bldg., Detroit, imprvs., Washtenaw Co., to Paul M. Sterling Co., 114 Liberty St., New York, N. Y., less than **$1,000,000.**

Miss., Glover—IMPROVEMENTS—Southern Air Service, c/o J. F. Lamier, mgr., 1461 Lamar St., Memphis, Tenn., imprvs., bldgs., to Wessell Constr. Co., Front St., Memphis, Tenn., approx. **$50,000.** Erwin-Newman Co., M & M Bldg., Houston, Tex., engrs.

†**Missouri**—FUELING SYSTEM—U. S. Eng., P. O. Box 97, Memphis, Tenn., fueling sys., Dunklin Co., to A. S. Wikstrom, Mobile, Ala. Est. under **$50,000.**

†**Missouri**—IMPROVEMENTS—U. S. Eng., 10 E. 17 St., Kansas City, imprvs., Buchanan Co., to C. C. Larsen & Sons, 10 N. Main St., Council Bluffs, Ia. Est. under **$100,000.**

†**Nevada** — IMPROVEMENTS — U. S. Eng., 4792 Sepulveda Ave., San Bernardino, Calif., imprvs., Spec. 86C, Clark Co., to General Constr. Co. and J. Walter Johnson, 5205 Hollywood Blvd., Los Angeles, Calif. Est. under **$100,000.** Awarded 11/30.

†**Nevada**—RAILROAD SPUR—U. S. Eng., 4792 Sepulveda Ave., San Bernardino, Calif., railroad spur, Solic 793, Clarke Co., to Clifford C. Bong & Co., 6 N. 1 Ave., Arcadia, Calif., less than **$50,000.** Awarded 11/28.

†**New Jersey**—FENCES—U. S. Eng., 120 Wall St., New York, N. Y., fences, Essex Co., to Hansen-Jensen, Inc., 427 N. Broad St., Elizabeth, under **$50,000.**

†**New Jersey** — PARK ADDITIONS — U. S. Eng., 120 Wall St., New York, N. Y., motor reception park, addns., Middlesex Co., to Charles F. Vachris Inc., 827 Remsen Ave., Brooklyn, N. Y.

UNCLASSIFIED (Contracts Awarded, Cont'd.)

★†**N. J., Atlantic City**—IMPROVEMENTS—Civil Aeronautics Admin., La Guardia Field, Jackson Heights, N. Y., imprvs., to Union Paving Co., 1227 N. Broad St., Phila., Pa., **$1,076,779.** Bids 10/24. CD 10/29—ENR 11/5, under LB.

†**New Mexico** — IMPROVEMENTS — U. S. Eng., Albuquerque, imprvs., Bernalillo Co., to W. J. Wagner, Albuquerque, under **$50,000.**

†**New Mexico** — IMPROVEMENTS — U. S. Eng., Albuquerque imprvs., Luna Co., to C. C. Terry, Deming, under **$50,000.**

†**North Carolina**—ELECTRIC DISTRIBUTION SYSTEM—U. S. Eng., 308 Customhouse, Wilmington, outside electric distr. sys., Richmond Co., to Seastrunk Electric Co., 2740 Normandy Rd., Charlotte. Bids 11/25.

†**North Carolina**—IMPROVEMENTS—U. S. Eng., 308 Customhouse, Wilmington, imprvs., Onslow Co., to T. A. Loving & Co., Goldsboro.

★†**N. C., Greensboro**—IMPROVEMENTS—U. S. Eng., 308 Custom House, Wilmington, imprvs., to J. A. Jones Constr. Co., 209 W. 4 St., Charlotte. To exceed **$5,000,000.** William Plat & Lea Eng. Corp., Durham, engrs. and archts. CD 11/5—ENR 11/12.

†**Oklahoma**—IMPROVEMENTS—U. S. Eng., 231 W. Main St., Denison, Tex., imprvs., asphalt paving, Ellis Co. to H. J. Hall Const. Co., Railway Exch. Bldg., Kansas City, Mo. **$100,000-$500,000.**

★†**South Carolina**—IMPROVEMENTS—U. S. Eng., Marietta, Ga., imprvs., Greenville Co., to Ballenger Paving Co., Greenville, **$500,000-$1,000,000.**

†**Tennessee**—ELECTRICAL DISTRIBUTION SYSTEM, etc.—U. S. Eng., P. O. Box 97, Memphis, outside electrical distr. sys. and interior wiring bldgs., Inv. 1092-43-127 F, Shelby Co., to Morrissey & Knost, Meridian, Miss., under **$50,000.** Bids 11/24. CD 11/25.

†**Texas**—ELECTRICAL WORK—U. S. Eng., 25 St. and Avenue F, Galveston, electrical work for imprvs., Brazos Co., to Mann Electric Co., 401 Lockwood Dr., Houston, **$4,900.** CD 11/30—ENR 12/3 under CA.

†**Texas**—FACILITY—U. S. Eng., Fort Sam Houston, facility, Brown Co., to Rex D. Kitchens Const. Co., 608 W. Monroe St., Austin, under **$50,000.**

†**Texas**—FENCING—U. S. Eng., Fort Sam Houston, addnl. fencing, Spec. 42-488, Bexar Co., to American Steel & Wire Co., 306 Throckmorton St., Fort Worth, under **$50,000.** Bids 10/20. CD 10/15.

†**Texas**—IMPROVEMENTS—U. S. Eng., Albuquerque, N. M., imprvs., Presidio Co., to Paddock Eng. Co. of Texas, 2929 N. Fitzhugh St., Dallas. **$100,000-$500,000.** Bids about 1/23. CD 11/16.

†**Texas** — IMPROVEMENTS — U. S. Eng., Fort Sam Houston, imprvs., bldgs., facilities, utilities, Hays Co., to J. E. Dickey, 216 Eleanor St., San Antonio, **$50,000-$100,000.**

†**Texas**—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., elec. distr. sys. exten., etc., Cameron Co., to Swedlund & Son, Edinburg, over **$50,000.** Bids 12/1. CD 11/30.

†**Texas**—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., Tom Green Co., to G. W. Batten, 617 West Bldg., Houston, under **$50,000.**

†**Texas**—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., addnl. bldgs., Maverick Co., to Noser Constr. Co., McAllen, **$100,000-$500,000.**

†**Texas**—IMPROVEMENTS—U. S. Eng., 25 St. and Avenue F, Galveston, imprvs., McLennan Co., to F. Hall, Waco, **$50,000-$100,000.** Bids 11/24. CD 11/17.

†**Texas**—RAILWAY TRACKAGE, etc.—U. S. Eng., Fort Sam Houston, addnl. railway trackage, facilities, Bexar Co., to D. Word, 446 E. Rosewood St., San Antonio and Wm. A. Smith Constr. Co., Inc., Citizens Natl. Bank Bldg., Houston, under **$50,000.**

Tex., Dacosta—OIL WELL—La Gloria Corp., Victoria and Corpus Christi, 6,400 ft. deep test oil well, 2 mi. northwest of here. A Talbott survey force account. **$45,000.**

†**Tex., Temple**—SITE GRADING—U. S. Eng., Fort Sam Houston, addnl. site grading, Bell Co., Spec. 42-386, to H. Page, Norwood Bldg., Austin, **$50,000-$100,000.**

†**Utah**—RAILROAD TRANSFER SHED—U. S. Eng., 32 Exchange Pl., Salt Lake City, railroad transfer shed, Weber Co. to W. C. Smith, Inc., 216 Bd. Trade Bldg., Portland, Ore., under **$60,000.** Bids 11/20.

†**Washington** — ELECTRICAL DISTRIBUTION SYSTEM—U. S. Eng., 800 3 Ave., Seattle, electrical distr. sys., Mason Co., to Electric Constr. Co., 762 Commerce St., Tacoma, under **$50,000.**

†**Washington** — ELECTRICAL DISTRIBUTION SYSTEM—U. S. Eng., 800 3 Ave., Seattle, electrical distr. sys., Spokane Co., to Consolidated Electrical Contractors, 619 W. 1 St., Spokane, under **$50,000.**

†**Washington**—FENCE—U. S. Eng., 800 3 Ave., Seattle, fence, Whatcom Co., to R. C. Sisson, 1818 Franklin St., Bellingham, under **$50,000.**

†**Washington**—GAS SYSTEM—U. S. Eng., 800 3 Ave., Seattle, gas sys., Snohomish Co., to Aqua Systems, Inc., 701 E. 3 St., Los Angeles, Calif., under **$50,000.**

†**Wisconsin**—ELECTRICAL INSTALLATION—U. S. Eng., Baraboo, electrical installation, Sauk Co., to Good Electric Co., 6651 W. Locust St., Milwaukee, under **$50,000.**

★†**Outside United States** — FACILITIES — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., addnl. facilities, NOY 4164, Supplementary Agreement 5, to Lindgren & Swinerton, Inc., Hegeman Harris Co., Inc., and Tucker McClure, 220 E. 42 St., New York, N. Y., **$6,276,000.** Awarded 9/2. Additional to CD 3/11, under CA.

PUBLIC BUILDINGS

PROPOSED WORK

†**California**—Henry J. Kaiser Co., Latham Square Bldg., Oakland, fire house. Federally financed.

★†**California** — Marin Co. Housing Auth., Cheda Bldg., San Rafael, public trailer camp, utilities, Proj. Cal. 4314, for NHA.

★†**California** — Richmond Housing Auth., Administration Bldg., Atchison Village, Richmond, bids soon (selected list contractors), apartments, Cal. 4414, for NHA, C. I. Warnecke, 1700 Financial Center Bldg., Oakland, G. E. Banks, 605 Market St., San Francisco, and V. G. Raney, 233 Post St., San Francisco, archts. CD 11/2.

†**California**—Riverbank City Housing Auth., G. C. Staley, dir., Box 358, Riverbank, plans by Russell Guerne de Lappe, 564 Market St., San Francisco, housing, Proj. Cal. 4481, for NHA. CD 11/20—ENR 11/26.

★†**California**—Housing Auth. of City and County of San Francisco, 525 Market St., San Francisco, plans by L. P. Hobart, 525 Market St., San Francisco, temporary dormitory units, Calif. 4521, $400,000-$500,000; plans by T. L. Pflueger, 580 Market St., San Francisco, dwelling units, Project Cal. 4522, $1,000,000, for NHA. CD 12/8.

†**California**—U. S. Eng., 1209 8 St., Sacramento, bldgs., Contra Costa Co.

†**California**—U. S. Eng., 1209 8 St., Sacramento, bldgs., Spec. 306, San Joaquin Co.

★†**California** — Housing Auth. of Vallejo, Ryder St., Vallejo, plans apartment and dormitory units, for NHA.

†**Connecticut**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., trailer housing, facilities, $150,000.

Conn., Bridgeport—J. McLevy, Mayor, City Hall, rebuilding brick business bldg., Main St. $175,000.

★†**D. C., Wash.**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts., N.W., cancelled construction housing, DC-1-6. CD 11/12—ENR 11/19.

D. C., Wash.—District Comrs., District Bldg., temporary school, Nichols Ave. and Summer Rd. S.E.

†**D. C., Wash.**—National Park Service, Interior Bldg., 19 and C Sts. N.W., 20 recreation centers, grading, construction, etc. tennis courts, other game areas. $457,000 approved by PWA.

★†**Idaho**—Pocatello Housing Auth., Pocatello, plans by F. H. Paradice, Jr., Pocatello, housing unit and apartments, for NHA. $800,000. CD 11/19—ENR 11/26.

★†**Illinois**—Pub. Housing Auth., NHA, 270 N. Wells St., Chicago, postponed temporary dormitory apartments, Ill-11172 and temporary housing, Ill-11171, pending receipt of priorities. Aschauer & Waggonery, Citizens Bank Bldg., Decatur, archts. CD 11/23. ENR 11/26.

★†**Illinois**—Pub. Housing Auth., 201 N. Wells St., Chicago, plans by Lankton & Ziegler, 1805 N. Knoxville Ave., Peoria, temporary family housing, Ill. 11034.

★†**Illinois**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, indefinitely postponed bids to have been opened Dec. 1, temporary housing Ill-11181; temporary dormitory housing, Ill-11182. Springfield Architects Associated, Leland Bldg., Springfield, archts. CD 11/25—ENR 10/22.

†**Indiana**—Pub. Housing Auth., NHA, 270 N. Wells St., Chicago, Ill., postponed temporary housing, Ind-12141, pending receipt of priorities. Miller & Yeager and Bevington, Williams & Strauss, Opera House Block, Terre Haute, archts. CD 11/23. ENR 10/22.

†**Kansas**—Pub. Housing Auth., NHA, Dierks Bldg., Kansas City, Mo., plans trailer camp. To exceed $100,000.

★†**Kentucky**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., D. C., plant, for National Synthetic Rubber Corp. (Goodall Rubber, Inc., Hamilton Rubber Mfg. Co., both of Trenton, N. J., Hewitt Rubber Corp., Buffalo, N. Y., Lee Rubber & Tire Corp., Conshohocken, Pa., and Minnesota Mining & Manufacturing Co., St. Paul, Minn.).

†**Me., Presque Isle**—Federal Works Agency, 99 Chauncy St., Boston, Mass., 1 story, part bsmnt. recreation bldg. $84,500 gr.

†**Maryland**—Pub. Housing Auth., NHA, Temporary Bldg., 2, 19 and D Sts., N.W., Wash., D. C., indefinitely p[ostponed] have been opened Dec. 1, [Proj.] MD-12[3]1. CD 11/25—ENR 11/19.

†**Maryland**—Federal W[orks] State Planters Bank Bldg[.], 1 story, school, Sollers Point, Co. $58,350 allot. H. R. Ro[bert] N.W., Wash., D. C., archt.

★†**Michigan**—Aluminum C[o.] ica, Dunn Rd., Detroit, plant and addn. $3,000,000 over, permanent housing, NH 2[7]. CD 10/14—ENR 10/22.

★†**Nebraska** — Pub. Housi[ng] Dierks Bldg., Kansas City, pleted by Fisher & Fisher, D[en.] Bldg., Denver, Colo., and porary units, $400,000; dormi[t.] 300,000. CD 11/17—ENR 11/19.

†**Nebraska**—U. S. Eng., 17[09] Omaha, remodeling bldgs., Cheyenne Co.

★†**New Hampshire**—Pub. H[ousing Auth.,] NHA, 24 School St., Bost[on,] vised plans by A. T. Granger, over, permanent housing, NH 2[7]. CD 10/14—ENR 10/22. $500,000.

†**New Mexico**—Pub. Housing [Auth.,] NHA, Electric Bldg., Fort Worth, Tex., plans by W. G. Strange, Jr., Lubbock, Tex., and J. Shaeffer, Clovis, housing, N. M. 29052.

†**New Mexico**—Pub. Housing Auth., NHA, Electric Bldg., Fort Worth, Tex., plans by Frazer & Benner, El Paso Natl. Bank Bldg., El Paso, Tex., housing and dormitory units, NM 29081. Boyd Eng. Co., Albuquerque, engrs.

N. Y., Jamestown—City, Health & Hospital Bd., brick, concrete hospital addn. Over $150,000.

†**North Carolina**—Fairchild Engine & Airplane Corp., Burlington, addnl. plant facilities. Over $300,000. Defense Plant Corp. will finance.

★†**Ohio**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., D. C., plant. Over $3,000,000. Sun Oil Co., 1608 Walnut St., Phila., Pa., will operate.

†**Oklahoma**—U. S. Eng., 416 Wright Bldg., Tulsa, housing, steam heating, water, sewer and electric wiring, Garfield Co.

★†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., postponed bids to have been opened after Dec. 1, pending revision plans and specifications for dwellings, Pa-36107. CD 11/11—ENR 11/19.

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y. postponed construction, pending revision plans and specifications, dwellings, Pa-36109. CD 11/12—ENR 11/19.

★†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., postponed bids to have been opened after Dec. 11, pending revision plans and specifications, dwellings, Pa. 36172. CD 11/13—ENR 11/19.

†**Rhode Island**—Newport Housing Auth., Park Holm, Newport, plans by Howe & Prout, 1016 Turks Head Bldg., Providence, recreation-maintenance bldg. for housing Project RI 37013, for NHA. $50,000.

†**Texas**—Pub. Housing Auth., NHA, Electric Bldg., Fort Worth, housing.

†**Texas**—Pub. Housing Auth., NHA, Electric Bldg., Fort Worth, trailer housing, Tex 41424.

†**Texas**—Pub. Housing Auth., NHA, Electric Bldg., Fort Worth, frame type single unit dwellings, $2,000 per unit.

★†**Texas**—U. S. Eng., U. S. Engineer Office, San Antonio, military installation, Coryell Co. Over $5,000,000.

†**Va., Newport News**—Federal Works Agency, 606 State Planters Bldg., Richmond, 1 story, frame, school, near here. $158,000.

†**Washington**—U. S. Eng., 800 3 Ave., Seattle, bldgs., Inv. 261.

†**Wisconsin**—Defense Plant Corp., 38 S. Dearborn St., Chicago, Ill., hemp mill. $275,000. Commodity Credit Corp., 208 S. La Salle St., Chicago, Ill., will operate.

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†**Wisconsin**—Defense Plant Corp., 38 S. Dearborn St., Chicago, Ill., hemp mill. $275,000. Commodity Credit Corp., 208 S. La Salle St., Chicago, Ill., will operate.

PUBLIC BLDGS. (Proposed Work, Cont'd.)

†**Wis., La Crosse**—Federal Works Agency, 20 N. Wacker Dr., Chicago, Ill., plans completed by Boyum, Schubert & Sorenson, La Crosse, remodeling 1 story, 75x175 ft. recreation bldg. $70,000.

†**Pacific Northwest**—U. S. Eng., 300 3 Ave., Seattle, Wash., bldgs., Inv. 262; storage rooms, etc. Inv. 257-9; electrical distr. sys., Inv. 260; bldg. Inv. 266.

★†**B. C., Vancouver**—Municipality, G. C. Miller, alderman, library, museum $1,000,000; auditorium $1,000,000.

★†**Ont., Ajax**—Wartime Housing Ltd., 55 York St., Toronto, 400 dwellings. $1,000,000.

BIDS ASKED

Bids Asked After December 3

★†**Connecticut**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., housing, Conn. 6129. $1,500,000. Myichreest & Reynolds, 238 Palm St., Hartford and K. S. Heime, 101 Mohawk Dr., West Hartford, archts. CD 11/10—ENR 11/12.

Bids Asked December 14

†**Md., Baltimore**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., 25 unit temporary family dwelling units, Md-18163, A. R. Clas, Shoreham Bldg., Wash., D. C., archt.; 25 unit dormitory apartments, Md-18164, B. Frank, 15 W. Franklin St., archt. CD 11/30—ENR 12/3.

Bids Asked December 16

★†**N. J., Camden**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 220 unit permanent housing, NJ-28045. F. H. Rodey, 101 N. 7 St., archt. CD 11/11—ENR 11/19.

†**N. J., Camden**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 80 unit permanent housing, NJ-28046. F. H. Rodey, 101 N. 7 St., archt.

Bids Asked December 17

★†**Fla., Key West**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., 224 unit dormitory apartments, Fla-8076. Steward & Skinner, Ingraham Bldg., Miami, archts. CD 11/11—ENR 11/19.

★†**Pa., Phila.**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 700 unit temporary family dwelling units, Pa-36253. Demchick & Supowitz, 220 S. 16 St., archts. CD 11/21—ENR 11/19.

Bids Asked December 18

†**New York**—Niagara Falls Housing Auth., City Hall, Niagara Falls, bldgs. NYS-18, for NHA. Plans deposit $25. Association of Licensed Architects, 7 Rieckhoff Bldg., Niagara Falls, archts. CD 9/16—ENR 9/24.

†**N. C., New Bern—Morehead City**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., 100 unit family housing, NC-31062. J. J. Rowland, Kingston, archt. CD 11/23—ENR 11/26.

★†**Pa., Phila.**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 350 unit permanent housing, Pa. 36363, Magaziner, Hahn, Abramson, Trumfour, 1701 Walnut St., archts. CD 11/13—ENR 11/19.

Bids Asked December 19

★†**Md., Baltimore**—Pub. Housing Auth., NHA, Temporary Bldg. 2, 19 and D Sts. N.W., Wash., D. C., 1,000 unit temporary family dwellings, Md-18162. Extended date. B. Frank, 15 W. Franklin St., archt. CD 11/30—ENR 12/3.

Bids Asked December 20

★†**N. J., Camden**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 1000 unit permanent housing, NJ-28043. F. H. Rodey, 101 N. 7 St., archt. CD 11/11—ENR 11/19.

Bids Asked December 21

†**Illinois** — Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., dormitory apartments, Ill-11033 and temporary apartments, Ill-11034. J. Fletcher, Lankton & J. Ziegler, 1805 N. Knoxville Ave., Peoria, archts. CD 12/1 and 12/2—ENR 12/3 and 12/10.

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 150 unit permanent housing, Delaware Co. Pa. 36368. Gleeson & Mulrooney, 1812 Market St., Phila., archts. CD 11/11—ENR 11/19.

Bids Asked December 22

†**Pennsylvania**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 150 unit permanent housing, Delaware Co., Pa. 36361. Zantzinger & Boris, Architects Bldg., Phila., archts. CD 10/19—ENR 10/22.

Bids Asked After December 25

†**Conn., Norwalk**—Norwalk General Hospital, R. N. Brough, supt., 4 story, brick, steel maternity unit hospital, Stevens St. $350,000. **FWA.** Visscher & Burley, 51 E. 42 St., New York, N. Y., archts. CD 10/19—ENR 10/29.

Bids Asked December 28

★†**Pa., Pittsburgh**—Pub. Housing Auth., NHA, 270 Bway., New York, N. Y., 400 unit permanent housing, Pa-36106 Flynn & Eagen, McKeesport, archts. CD 9/17—ENR 9/24.

Bids Asked December 29

†**Pa., Marcus Hook**—Office of District Engineer Public Bldgs. Admin., 3102 City Post Office Bldg., Wash., D. C., repairing barracks, fumigation, hospital and isolation bldgs., and mechanical equip. at U.S.Q.S. Spec. PB-DE-3. **FWA.**

Bids Asked December 30

★†**Utah, Tooele**—Pub. Housing Auth., NHA, Dierks Bldg., 10 St. and Grand Ave., Kansas City, Mo., 250 unit temporary housing, Utah-42044, FP 45762. Burns & McDonnell Eng. Co., 107 W. Linwood Blvd., Kansas City, Mo., archts.

Bids Asked

†**Alabama**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., housing, Ala. 1171. P. Roberts, First Natl. Bank Annex, Mobile, archt.

†**Arkansas**—Pub. Housing Auth., NHA, 1309 Electric Bldg., Fort Worth, Tex., prefabricated type, dormitory apartments, incl. underground utilities, site development, etc. Ark-3047. Plans deposit $100. Erhart & Eichenbaum, Pyramid Bldg., Little Rock, archts. CD 1019—ENR 10/22.

★†**Connecticut**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., housing, Conn. 6131. C. J. Malmfeldt, 36 Pearl St., Hartford, archt. CD 11/23—ENR 11/26.

†**La., New Orleans**—Engineer, c/o Federal Works Agency, PBA, 550 Post Office Bldg., Dallas, Tex., heating and mechanical installations, etc. for bldgs. Over $25,000.

†**Maine**—U. S. Eng., Park Square Bldg., Boston, Mass., (selected list bidders) temporary bldgs., utilities, Aroostook Co.

†**Massachusetts**—U. S. Eng., Park Square Bldg., Boston (selected list bidders) frame temporary bldgs., No. 175-43-NEG 161, Barnstable Co.

†**Massachusetts**—U. S. Eng., Park Square Bldg., Boston, (selected list bidders), housing facilities, wood platforms, No. 175-43-NEG 164, Suffolk Co.

†**Tennessee**—Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., dormitory apartments and permanent dwellings. Plans deposit $50. F. B. Warfield, Nashville Trust Bldg., Nashville, archt.

†**Tennessee**—Pub. Housing Auth., NHA, 615 Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, Ga., dormitory apartments and dwelling unit housing, Project 40083. Plans deposit $50. Freeland Roberts & Co., 3rd Natl. Bldg., Nashville, archts.

†**Tex., Gainesville**—Federal Security Agency, Maverick Bldg., San Antonio, recreation center, facilities, Tex. 41-568. $85,000. **FWA.** CD 9/16—ENR 9/24.

LOW BIDDERS

†**California**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Nov. 28, bldg. etc. No. 942, Riverside Co., from Jackson Bros. & Le Sage, 547 S. Fairfax Ave., Los Angeles, under **$500,000.**

†**South Carolina**—U. S. Eng., Fort Jackson, Nov. 25, bldgs., Lexington Co., from W. H. Hand & Son, Belmont.

†**Texas**—U. S. Eng., 231 W. Main St., Denison, bldgs., etc., Solic. 257-43-140, Lamar Co., from J. W. Bateson, Box 432, Paris, **$100,000-$500,000.** CD 11/23—ENR 12/3.

★†**Washington**—King County Housing Auth., County-City Bldg., Seattle, Dec. 2, housing, Projects Wash. 45161, 45138 and 45139, for NHA, from Moore & Roberts, 305 Lloyd Bldg., Seattle, **$2,490,777.** CD 11/2—ENR 10/1.

CONTRACTS AWARDED

★†**Alabama**—Mobile Housing Auth., 600 N. Joachim St., Mobile, temporary housing Ala.-1106 A, to Peyton Higgison, 58½ St. Francis St., Mobile, and Hancock Co., 310 St. Michael St., Mobile***temporary housing Ala.-1106 C and dormitories Ala.-1107 C, to Algernon Blair, 1st Natl. Bank Bldg., Montgomery ***dormitories, Ala.-1107 B and temporary housing, Ala.-1106 B and D, to Kenneth Giddens, 1st Natl. Bank Bldg., Mobile and J. F. Pate Constr. Co., Annex 1st Natl. Bank Bldg., Mobile, for NHA.

†**Arizona**—U. S. Eng., Albuquerque, N. M., addnl. bldg. unit, utilities, Pinal Co., to Shumaker-Evans, 3000 N. Central St., Phoenix. **$100,000-$500,000.** Bids about 11/10. CD 10/29 under BA.

†**Arkansas—U. S. Eng., 300** Bway., Little Rock, temporary frame bldgs., Arkansas and Jackson Counties, to Thomas P. Coogan, Inc., Commercial National Bank Bldg., Little Rock. **$100,000-$500,000.**

†**California**—Henry J. Kaiser Co., Latham Square Bldg., Oakland, children's nursery, to Heyman Bros., 564 Market St., San Francisco. Federally financed.

★†**California**—Richmond Housing Auth., Administration Bldg., Atchison Village, Richmond, apartments, Project 4412, for NHA, to G. W. Williams Co., 10 California Dr., Burlingame, **$1,310,475.** Awarded 12/1. CD 12/3, under LB.—ENR 11/12 BA.

†**California**—U. S. Eng., 74 New Montgomery St., San Francisco, bldg. facilities, Marin Co., to M. A. Little, 1 Grand View Ave., San Francisco. Awarded 12/1.

†**California—U. S.** Eng., 1209 8 St., Sacramento, bldgs., Sacramento Co., to G. W. Williams Co., 10 California Dr., Burlingame; miscellaneous bldgs., Sacramento Co., to Moore & Roberts, 693 Mission St., San Francisco.

†**California**—U. S. Eng., 74 New Montgomery St., San Francisco, **bldg. San Mateo Co.**, to J. H. Allen, 1012 Elm St., San Carlos. Awarded 12/1.

†**California**—Industrial Company, bldg. addn., Alameda Co., to Cahill Bros. Inc., 206 Sansome St., San Francisco. Federally financed. CD 11/20—ENR 11/26.

†**California**—San Bernardino County Housing Auth., 1083 Waterman St., San Bernardino, wood frame dormitory units, for NHA, to C. McDonald & L. E. McKee, 50 E. Vine St., Redlands. **$167,635.** Est. $150,000. Bids 11/23. CD 11/18—ENR 10/29.

†**California**—U. S. Eng., 751 S. Figueroa St., Los Angeles, bldg., No. 949, Los Angeles Co., to W. J. Distell, 3110 W. 43 Pl., Los Angeles; electrical contract, to C. D. Draucker, 4031 Goodwin Ave., Los Angeles.

†**California**—U. S. Eng., 74 New Montgomery St., San Francisco, bldgs., Monterey Co., to A. H. Juncker, 221 Maple St., Salinas; bldg., Monterey Co., to H. C. Geyer, 787 Munras Ave., Monterey. Awarded 11/27.

†**Colorado**—U. S. Eng., c/o Postmaster, Denver, bldgs., El Paso Co., to F. J. Kirchhof Constr. Co., 700 Lawrence St., Denver, Est. under **$500,000.**

†**Connecticut** — Industrial Company, frame temporary engineering bldg., to Wadhams, May & Carey Co., 15 Lewis St., Hartford. Est. **$10,000.** Federally financed. CD 11/30—ENR 12/3.

†**Florida**—U. S. Eng., U. S. Courthouse and Post Office, Jacksonville, bldgs., Inv. NEG-JAX-43-359, Collier Co., to Nelson Constr. Co. Miami, under **$50,000.** Awarded 11/17.

†**Florida**—U. S. Eng., U. S. Courthouse & Post Office, Jacksonville, warehouse, Inv.-NEG-W.PB-43-12, Palm Beach Co., to J. S. Willson, Worth Ave., Palm Beach, under **$50,000.** Awarded 11/17.

†**Georgia** — Pub. Housing Auth., NHA, Georgia Savings Bank Bldg., Peachtree and Broad Sts., Atlanta, housing, Ga. 9112 and Ga. 9114, to Newton & Glenn, Hattiesburg. **$219,000.** Bids 11/4. CD 11/2—ENR 10/15.

†**Georgia**—U. S. Eng., Warner Robins, addnl. bldgs., Bibb Co., to Murphy Pound, Columbus; bldg., Bibb Co., to Stilwell Const. Co., Macon. **(Correction** —contractors.) CD 11/17—ENR 11/19, under CA.

†**Georgia**—U. S. Eng., Post Office Bldg., Savannah, addnl. bldgs., Chatham Co., to Fennell Constr. Co., Gainesville.

†**Georgia**—U. S. Eng., 494 Spring St. N.W., Atlanta, addnl. bldgs., Fulton Co., to J. J. Black, 161 Spring St. N.W., Atlanta.

†**Georgia**—U. S. Eng., Post Office Bldg., Savannah, addnl. bldgs., Liberty Co., to P. S. Cecil Const. Co., Spartanburg, S. C.

†**Idaho**—U. S. Eng., Pittock Blk., Portland, Ore., bldgs., utilities, Ada Co., to Tri-State Constr. Co., 1812 NW. 40 St., Portland, Ore. Est. under **$200,000.**

★†**Illinois**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., D. C., design and construction addnl. plant facilities, to Sumner S. Sollitt & Co., 307 N. Michigan Ave., Chicago. Est. **$1,200,000.** Industrial Company will operate. CD 11/19—ENR 11/26.

★†**Indiana**—U. S. Eng., 700 Union Guardian Bldg., Detroit, Mich., administration bldg. and parachute bldg. addn., Allen Co. to H. Green, 3201 S. Lafayette St., Fort Wayne, less than **$1,000,000.**

†**Kansas**—U. S. Eng., 416 Wright Bldg., Tulsa, Okla., housing, sewage plant, Pratt Co., to C. M. Suttle, 12 N.W. 8 St., Oklahoma City, Okla., under **$500,000.**

†**Kansas**—U. S. Eng., 601 Davidson Bldg., Kansas City, Mo., bldgs., etc., Shawnee Co., to Patti-MacDonald Constr. Co., E. Funston Rd., Kansas City, Kan.; electrical work, to W. T. Foley Electric Co., 709 N. 6 St., Kansas City, Kan. Est. over **$100,000.**

†**Kentucky**—U. S. Eng., U. S. Post Office & Courthouse, Cincinnati, O., addnl. warehouse facilities, incl. excav., grading, drainage and connections and addns. to electrical distr. sys., Campbell Co., to Leo J. Brielmaier, Inc., 3401 Harrison St., Cincinnati, O., under **$50,000.**

★†**Maine**—Government Agency, military housing, Cumberland Co., to Cumberland Corp., 75 Pickett St., South Portland, **$1,000,000.**

†**Maine**—U. S. Eng., Park Square Bldg., Boston, Mass., temporary bldgs., utilities, Aroostook Co., to Bridge Constr. Co., 335 Water St., Augusta.

★†**Maine**—Pub. Housing Auth., NHA, 24 School St., Boston, Mass., demountable housing, Me-17039, to Casper Ranger Constr. Co., 5 Newton St., Holyoke, Mass., **$1,600,000.** CD 11/9—ENR 11/12.

†**Maryland** — Industrial Company, 1 story, brick storage bldg., Baltimore Co., to Consolidated Eng. Co., 20 E. Franklin St., Baltimore. Federally financed. Bids 10/23.

†**Massachusetts** — Industrial Company, cafeteria-commissary bldg., to Walsh Bros., 150 Hampshire St., Cambridge, **$89,000.** Federally financed. Bids 11/12. CD 11/10.

†**Massachusetts**—U. S. Eng., Park Square Bldg., Boston, plumbing for various bldgs., to Downey Co., 791 Tremont St., Boston. **Est. $50,000.**

PUBLIC BLDGS. (Contracts Awarded, Cont'd.)

★**†Michigan**—U. S. Eng., 700 Union Guardian Bldg., Detroit, rehabilitating 2 existing permanent type bldgs., Chippewa Co., to J. and G. Daverman Co., Keeler Bldg., Grand Rapids, less than **$1,000,000.**

★**†Michigan** and **Indiana** — U. S. Eng., 700 Union Guardian Bldg., Detroit, Mich., paint, dope and oil warehouse, reclamation bldg., engine cleaning bldg., and fencing, Macomb, Alpena and Washtenaw Counties, Mich. and Allen Co., Ind., to Aikin-Fordon Co., 7360 W. Chicago St., Detroit, Mich., A. N. Proksch, Iron River, Mich., Weikel Constr. Co., 243 Farmers Trust Bldg., Fort Wayne, Ind., and Gilbert Douglas Co., 439 Penobscot Bldg., Detroit, Mich., less than **$1,000,000.**

★**†Michigan**—U. S. Eng., 700 Guardian Bldg., Detroit, general contract bldgs., Washtenaw Co., to Haberkorn Barry Co., 719 Boulevard Bldg., Detroit; electrical work, to Hamill Electric Corp., 6544 Beaubien St., Detroit. Est. less than **$1,000,000.**

Mich., Lansing—60x240 ft., brick, concrete motor repair shop, etc., to H. G. Christman Co., 408 Kalamazoo Plaza. Est. **$75,000.**

†Minnesota—U. S. Eng., U. S. Post Office & Customhouse, St. Paul, general contract bldg. Hennepin Co., to Midwest Contg. Co., 2944 17 Ave. S., Minneapolis; electrical work to Batzli Electric Co., 1805 1 St. S., Minneapolis.

★**†Mississippi**—U. S. Eng., U. S. Post Office & Courthouse, Vicksburg, bldgs., Hinds Co., utilities, to A. Farnell Blair, P. O. Box 451, Decatur, Ga., over **$5,000,000**; electrical work, to Electric Service Co., 100 S. Barcelona St., Pensacola, Fla. CD 11/20—ENR 11/26, under LB.

†Missouri—U. S. Eng., 800 U. S. Courthouse & Custom House, St. Louis, bldgs., St. Louis Co., to I. E. Millstone Constr. Co., 4343 Clayton Ave., St. Louis, **$100,000-$500,000.** Bids 11/26. CD 11/24.

†New Jersey—Industrial Company, addnl. factory bldgs., to Frank Stewart Co., Inc., 1520 Locust St., Phila., Pa. Federally financed. M. Klein, 67 Court St., Brooklyn, N. Y., archt.

†New Jersey—U. S. Eng., 120 Wall St., New York, N. Y., addnl. military housing facilities, Essex Co., to Hansen-Jensen Inc., 427 N. Broad St., Elizabeth, **$100,000-$500,000.**

†New Mexico — U. S. Eng., Albuquerque, bldgs., De Baca Co., to Maxey & Leftwich, Box 108, Lubbock, Tex., **$100,000-$500,000.** Bids about 11/14.

†New Mexico—U. S. Eng., Albuquerque, bldgs., Otero Co., to K. L. House Const. Co., P. O. Box 755, Albuquerque, **$100,000-$500,000.** Bids 11/21. CD 11/12.

†New Mexico—U. S. Eng., Albuquerque, temporary frame bldgs., Bernalillo Co., to S. V. Patrick, Albuquerque, **$100,000-$500,000.** Bids about 11/30. CD 11/24.

★**†New York**—Buffalo Municipal Housing Auth., 392 Perry St., Buffalo, housing, Project NY 2-4, for NHA, to American Store Equip. & Const. Co., 461 8 Ave., New York, **$1,249,000.** CD 11/17—ENR 11/19, under LB.

†North Carolina — U. S. Eng., Charlotte, bldgs., oil storage, Mecklenburg Co., to P. S. West Constr. Co., Statesville. Bids 11/27.

†Oklahoma—U. S. Eng., 416 Wright Bldg., Tulsa, addnl. bldg., Muskogee Co., to Manhattan Const. Co., Muskogee, under **$50,000.**

★**†Pennsylvania**—U. S. Eng., P. O. Box 511, Butler, group 1 bldgs., Butler Co., to Lloyds Builders, Inc., Law & Finance Bldg., Pittsburgh. To exceed **$2,000,000.** Bids soon on Group 2, bldgs., from invited list bidders. CD 10/16—ENR 10/22.

†South Carolina—U. S. Eng., 33 Customhouse, Charleston, temporary frame bldgs., Charleston Co., to Simons-Mayrant Co., 16 Broad St., Charleston.

†Texas—U. S. Eng., Fort Sam Houston, bldgs., Spec. 42-387, Bell Co., to Hagstrom Constr. Co., c/o K. F. Ahlman, supt., Baker Hotel, Dallas, over **$200,000.**

†Texas—U. S. Eng., Fort Sam Houston, supplemental contract addnl. bldgs., facilities, Bexar Co., to L. Christy, 503 Builders Exchange Bldg., San Antonio, **$100,000-$500,000.** Addnl. to CD 11/30—ENR 12/3, under CA.

†Texas—Industrial Company, addnl. plant bldgs., to O. W. Collins, Port Arthur, **$70,000.** Federally financed. Additional to 12/1—ENR 12/3 under CA.

†Texas—U. S. Eng., Fort Sam Houston, addnl. bldgs., Bexar Co., to L. Christy, Builders Exchange Bldg., San Antonio, **$100,000 $500,000.**

†Texas—U. S. Eng., 25 St. and Avenue F, Galveston, bldg., Galveston Co., to A. G. Johnson, Guaranty Bldg., Galveston, under **$50,000.** Additional to CD 9/16—ENR 9/24 under CA.

†Texas—U. S. Eng., 25 St. and Avenue F, Galveston, bldgs., facilities, Webb Co., to Alamo Constr. Co., Smith Young Tower, San Antonio, **$100,000-$500,000.** CD 11/30.

†Tex., Orange—At office Regional Engineer, FWA, Electric Bldg., Fort Worth, hospital, Tex. 41-383, for City, to J. T. Taylor, 4811 Camp Bowie Blvd., Fort Worth, **$145,964, FWA.** Former bids rejected. CD 8/6—ENR 8/13, under LB.

★**†Va., Dahlgren** — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., D. C., housing facilities, NOY 5884, to Jeffress-Dyer Co., Inc., 1741 K St. N.W., Wash., D. C., **$150,000.** Awarded 11/25.

†Wisconsin—Industrial Company, storage and women's locker Bldg., to Hamann Constr. Co., N. 8 and Reed Sts., Manitowoc. Federally financed. K. V. Raymond, Manitowoc, archt.

★**†Wisconsin**—At office Bogner, Darby, Law & Potter, archts., 1 S. Pinckney St., Madison, housing, Project 47031, for Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., to B. W. Handler Constr. Co., 10 E. 13 St., Chicago, Ill., **$1,239,000.** CD 11/30—ENR 12/3, under LB.

†Utah—U. S. Eng., 32 Exchange Pl., Salt Lake City, heating bldgs., Weber Co., to Conyo-Joslin Co., 50 Hawthorne St., San Francisco, Calif., under **$350,000.** Bids 11/14.

★**British Columbia**—Dpt. Munitions & Supply, Ottawa, Ont., bldgs., to Coast Constr. Co., Ltd., 510 W. Hastings St., Vancouver, **$600,000.**

★**Ont., Sudbury** — Municipally and International Nickel Co. of Canada, Ltd., Sudbury, abandoned construction 300 dwelling units. $1,000,000.

★**Que., Montreal** — Dpt. National Defense (Army), Ottawa, Ont., 22 personnel bldg., R.C.O.C. Depot, Montreal Military Dist., near here, to A. Janin & Co., Ltd., 1460 Sherbrooke St. W., **$600,000**

COMMERCIAL BUILDINGS

PROPOSED WORK

Calif., Orinda—Netherlands Shipping Mission, 29 Bway., New York, N. Y., Lieut. Comdr. M. S. Wytema and Lt. H. F. De Groot, representatives Royal Netherlands Navy, San Francisco, revising plans and bids soon from 2 selected bidders, altering existing residence, constructing large dormitory, recreation room, swimming pool for European crew members and dormitory, kitchen, etc., on J. P. Miller Estate, San Pablo Dam Rd. F. H. Slocombe, 132 Monte Cresta Ave., Oakland, archt. CD 11/17—ENR 11/19.

N. J., Red Bank—Shrewsbury Manor, Inc., Red Bank, plans by McMurray & Schmidlin, 968 Stuyvestant Ave., Union, 4 brick veneer, frame apartment bldgs.

Wash., Vancouver—F. C. Von Gortler, 1411 4 Ave., Seattle, theatre, bowling alley. $200,000.

CONTRACTS AWARDED

Calif., San Francisco—Don Lee, Inc., 1000 Van Ness Ave., altering bldg., to Stanley H. Koller, 441 33 Ave.

★**Ind., Evansville** — Columbia Apartments, Inc., T. I. Stein, mgr., 18 Court Bldg., forty-five 2 story, bsmnt., frame, masonry housing, to Bradford Homes, Inc., 500 N. Weinbach Ave. Est. **$1,250,000.** Awarded 11/27. CD 10/12—ENR 10/15.

Utah, Garfield—International Smelting & Refining Co., Kearns Bldg., Salt Lake City, housing unit at Garfield and Arthur, to Intermountain Contractors, Atlas Bldg., Salt Lake City, **$460,000.**

INDUSTRIAL BUILDINGS

PROPOSED WORK

Conn., Fairfield—TRUCK TERMINAL—Seaboard Freight Lines, Inc., 587 Hollister Ave., Bridgeport, brick, concrete truck terminal, State St. exten. and Fiske St. $55,000. Fletcher Thompson, Inc., 211 State St., Bridgeport, engrs.

Conn., New Britain — WAREHOUSE — F. Amodio, 221 Elm St., rebuilding brick warehouse, Greenwood St. $40,000.

Conn., Stamford — FACTORY — Reflectone, Inc., lessee, 67 Greenwich Ave., altering factory, 114 Manhattan St.

Ia., Albert City — PLANT — Superior Mfg. Co., E. Sundholm, pres., Albert City, rebuilding plant. $50,000.

La., Lafayette—PLANT—Dallas Egg Drying Co., Lafayette, egg dehydration plant. $80,000.

N. J., Elizabeth—CRANE SHED—Pabst Engineering Equipment Co., 676 Pennsylvania Ave., preparing plans steel, concrete, frame crane shed. $40,000.

★**Pennsylvania** — MANUFACTURING, etc.—Industrial Company, plans by United Engineers & Constructors, Inc., engrs. and archts., 1401 Arch St., Phila., rehabilitating mfg. bldgs.; reclaiming from wrecking bldgs. at site mfg. bldgs.; power house, office bldg., concrete water reservoir. $590,000-$1,000,000.

Pa., New Brighton—PLANT—Brighton Clay Products Co., W. Schwartz, pres., New Brighton, rebuilding plant. $50,000.

Tenn., Nashville—FREIGHT DEPOT—Tennessee Central Ry. Co., H. R. Manby, ch. engr., American Trust Bldg., rebuilding freight depot, destroyed by fire. $200,000.

Tex., Dallas — FACTORY, etc. — Mid-City Realty Co., P. O. Box 598, 20x400 ft., brick, tile, concrete addn. fac[illegible] bldg., unit-remodeling, etc. $150,000.

Tex., Lufkin—PLANT—[illegible] Zeagler Lumber Co., Lufkin, reco[illegible]ting sawmill plant. $75,000 or more.

Wis., Green Bay—PASS[illegible]ER DEPOT—Chicago, Milwaukee, St. [illegible] & Pacific Ry Co., W. H. Penfield, ch. e[illegible] Union Station, Chicago, Ill., 2 story, 34[illegible] ft. passenger depot, probably frame, co[illegible]e fdn.

Wis., Manitowoc—PASS[illegible]ER DEPOT—Chicago & Northwestern R[illegible] R. Kulp, ch. engr., 400 W. Madison St[illegible] Chicago, Ill., 1 story, 22x120 ft. stucco, re[illegible] passenger depot, concrete fdn.

Wis., Milwaukee — CISTE[illegible] and HEAT TREATING—Nordberg Mfg. [illegible] 3073 S Chase Ave., plans by J. A. Grossk[illegible] c/o owner, 1 story, 40x112 ft. mill constru[illegible] cistern and heat treating bldg.

★**Ont., Timmins**—MINE BU[illegible]DINGS—Kam-Katia Porcupine Mine, [illegible] Timmins, 10x100 ft. concentrator, two [illegible]x96 ft. bunk houses, 35x70 ft. garage and [illegible] locker room, 25x40 ft. office and store bl[illegible], 38x50 ft. cookery, 30x50 ft. recreati[illegible] bldg., etc. $500,000.

★**Que., Lachute**—FACTORY—[illegible] Roy, St. Andrews, cheese and dairy products factory, $40,000.

CONTRACTS AWARDED

Calif., Berkeley—PLANT—American Forge Co., 701 Ashby Ave., altering industrial bldg. to Judson Pacific Co., 1200 17 St., San Francisco. Est. **$125,000.**

Calif., Sausalito—GARAGE, etc.—Marinship Corp., Sausalito, maintenance garage, to Herman Bros., 564 Market St., San Francisco*** service bldg., to Alfred P. Fisher, 300 Montgomery St., San Francisco***electrical contract for latter bldg., to Lynch & Scott Electric Co., 2080 Sutter St., San Francisco. CD 11/24—ENR 12/3.

Ill., Chicago—POWER STATION—Commonwealth Edison Co., 72 W. Adams St., remodeling electric power station, 3200 A 100 St., to Herlihy Mid-Continent Co., 140 S. Dearborn St., **$75,000.** Sargent & Lundy, 140 S. Dearborn St., engrs.

Ind., Fort Wayne—FACTORY—Magnovox Corp., R. A. O'Connor, pres., Buetter Rd., 1 story, 50x200 ft., brick, concrete factory top addn., to Max Irmscher & Sons, Inc., Old 1st Bank Bldg., **$100,000.** Awarded 11/28. A. M. Strauss, 415 Cal-Wayne Bldg., archt.

Md., Baltimore — SERVICE, etc. — Koppers Co., Bartlett Hayward Div., Scott and Hamburg Sts., service bldg. ,altering office bldg. to Morrow Bros., 14 E. Eager St. Est. $65,000.

Mich., Detroit—FACTORY—Hydraulic Machinery, Inc., 10421 Grand River Ave., general contract brick, concrete factory addn., to Campbell Constr. Co., 3255 Goldner Ave.; electrical contract, to Wayne County Electric Co., 15330 Michigan Ave., Dearborn, Total est. approx. **$75,000.**

Minn., Lake Park — ELEVATOR — Peavey Elevators, 809 Chamber of Commerce, Minneapolis, rebuilding elevator, day labor. **$40,000.**

O., Cleveland — FACTORY, etc. — Ohio Tool Co., L. E. Butzman, pres., 3160 W. 106 St., school and factory addn., 20x30 ft. and 60x60 ft., brick, steel, to J. L. Hunting Co., Chester-Ninth Bldg. Est. **$40,000.** F. Haushka, Chester-Ninth Bldg., engr.

O., Columbus — STOCKYARD BUILDINGS, etc.—Pennsylvania R.R. C. I. Leiper, ch. engr. (Central Region), Penn Station, Pittsburgh, Pa., group stock yard bldgs., roadways, driveways, sewer, water lines, to Minton Constr. Co., 1740 E. 12 St., Cleveland. Est. **$75,000.**

Pa., Callery—PLANT—Mine Safety Appliances Co., T. J. Ryan, pres., 300 Braddock Ave., Pittsburgh, Mfg. Bldg. 26, 1 story, 30x51 ft., brick, tile and storage bldg., to Navarro Corp., 6219 Broad St., Pittsburgh Prack & Prack, 517 Martin Bldg. N.S., Pittsburgh, archts.

Pa., Erie — PLANT — Erie Resistor Corp., B. B. Minnium, engr., 644 W. 12 St., 2 story, bsmnt., brick, steel mfg. plant, own forces **$50,000.**

Pa., Erie — FACTORY — National Foundry Co., W. J. Johnson, pres., 1521 Raspberry St., general contract 1 story, 165x165 ft., brick steel factory, to Sessinghaus & Ostergaard Inc., 1115 Peach St. Est. **$200,000.** Meyers & Johnson, 821 Commerce Bldg., archts.

Wis., Green Bay—WAREHOUSE—Chicago, Milwaukee, St. Paul & Pacific Ry Co., W. H. Penfield, ch. engr., Union Station, Chicago, Ill. rebuilding 1 story, 30x360 ft. frame warehouse, own forces. Johnson-Olson Grain Co., Minneapolis, Minn., lessee.

Wis., Milwaukee—FACTORY—Cutler-Hammer, Inc., 4107 W. Orchard St., 1 story, 79x146 ft. brick factory addn., rein.-con. fdn., to H. Schmutt & Son, Inc., 920 E. Burleigh St.

Wis., Tomah — CREAMERY — Ranney-Neuman Creamery, Superior St., general contract 2 story, 20x90 ft., hollow tile creamery bldg. addn., to John Schneider, Independence; refrigeration units, to Insulation Service Co., Inc., 2317 W. Lisbon Ave., Milwaukee. J. J. Flad, 133 Langdon St., Madison, archt.